MARITIME REPORTER

John T. Gilbride Addresses
Guests At Mormaccape Launching

SS "Mormaccape" Launched At Todd San Pedro Yard

(SEE PAGE 7)

JULY 1, 1960

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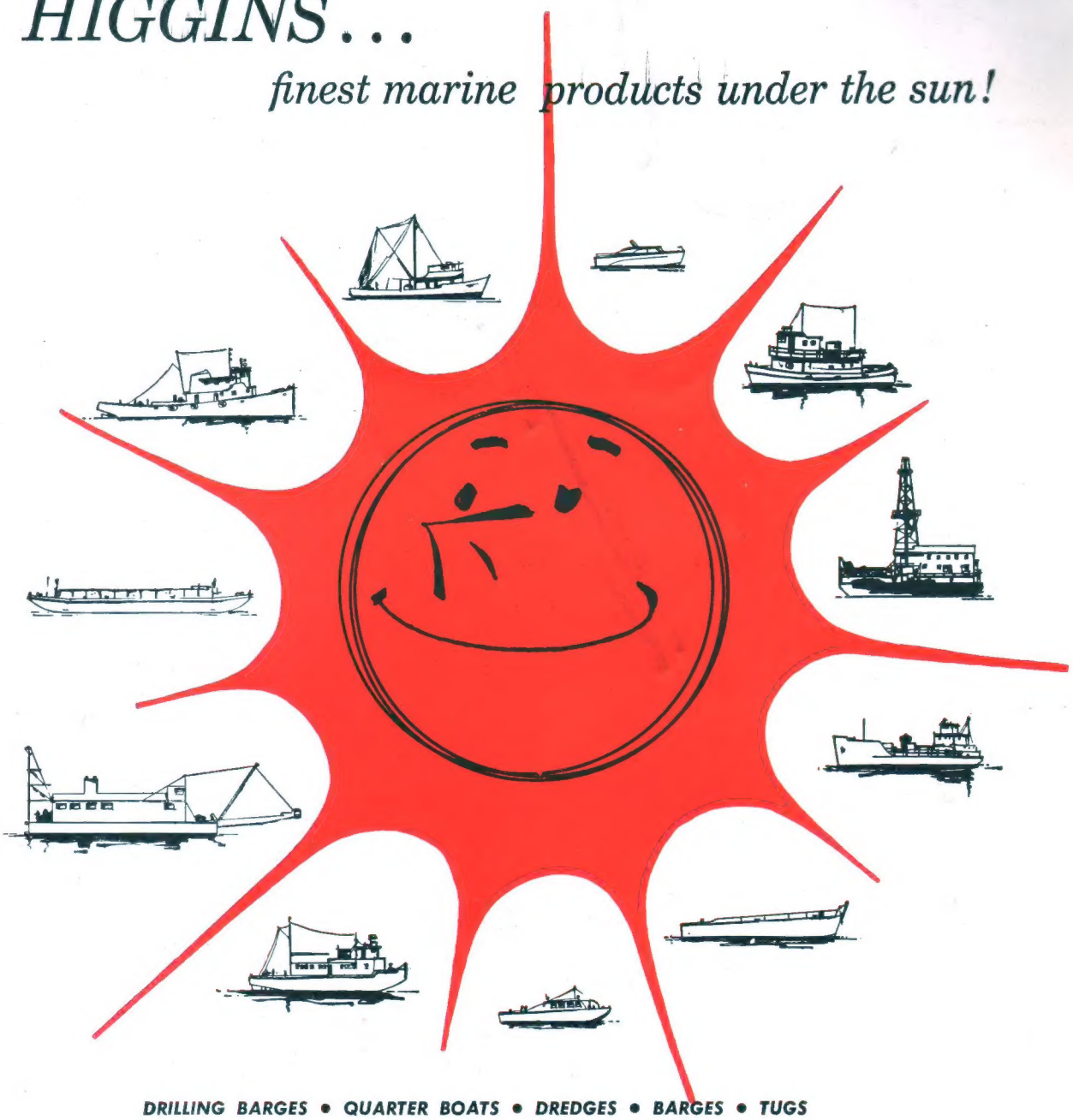

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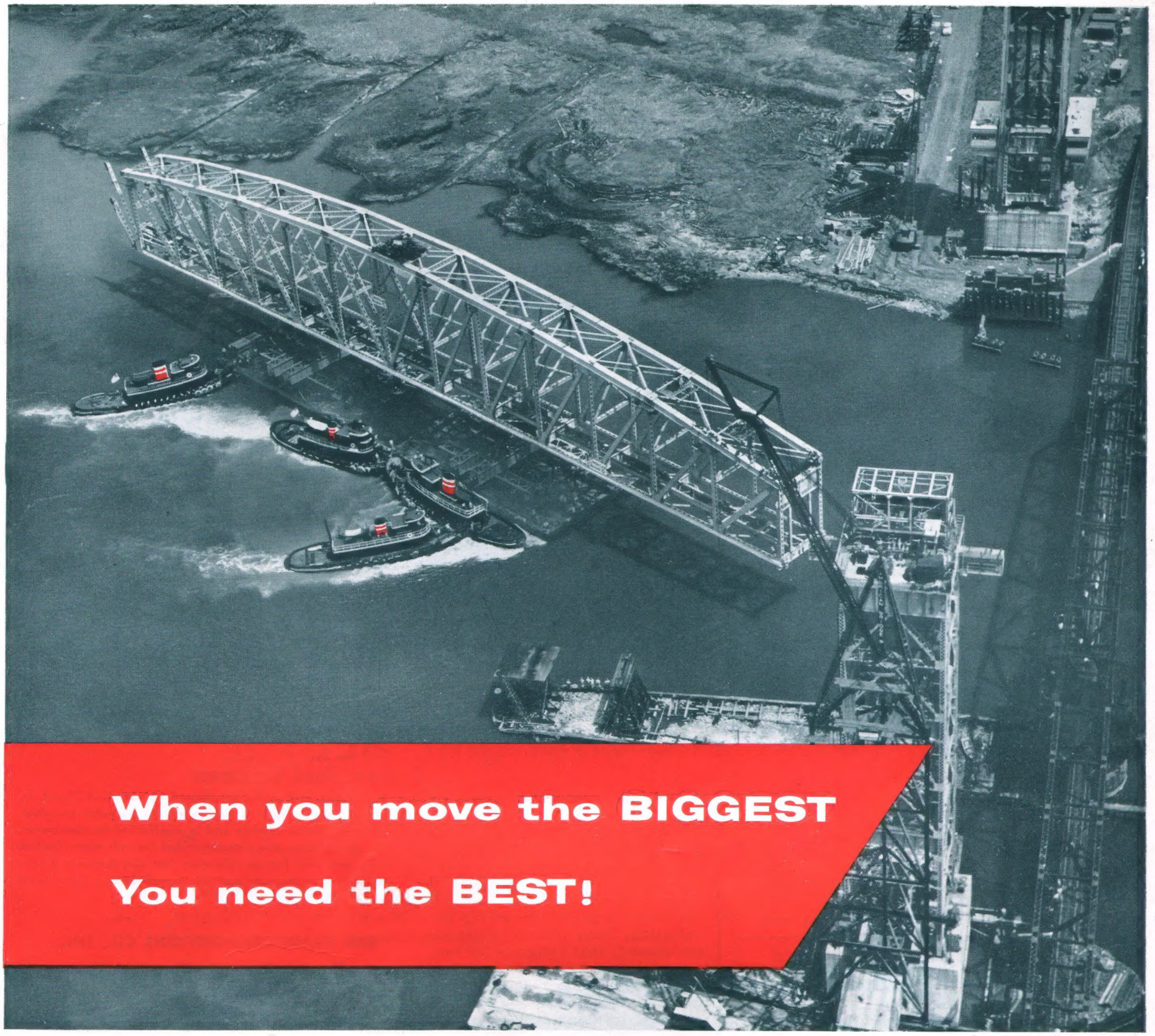

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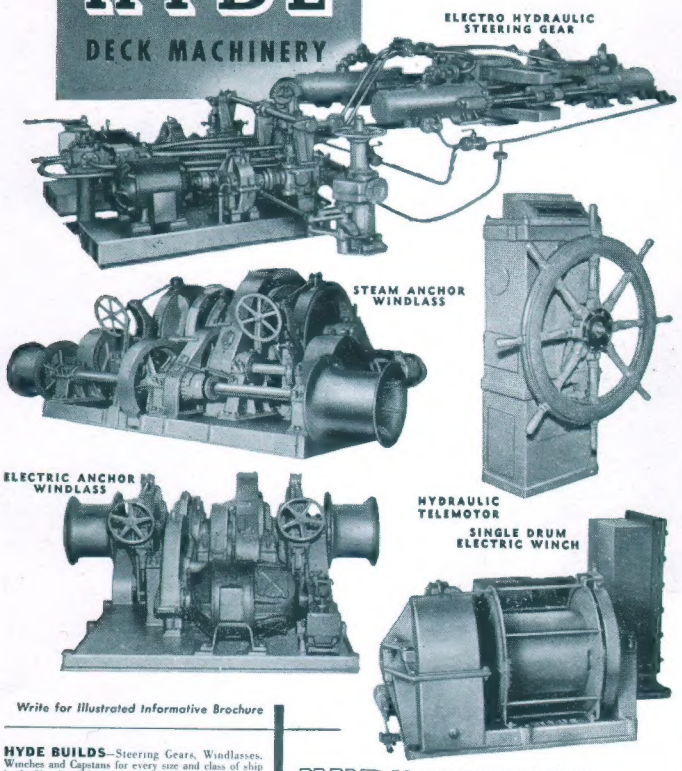

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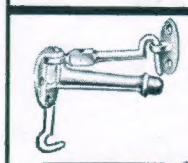
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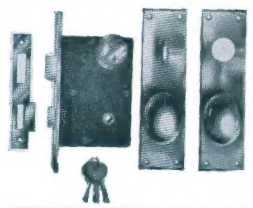
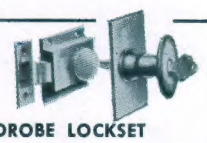

MORTISE CYLINDER LOCK


WARDROBE LOCKSET

CABIN DOOR HOOK

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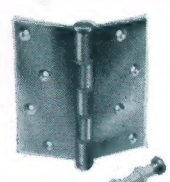

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Two Subsidy Bills Signed By President

Two bills, one extending the life of certain merchant ships to 25 years and the other to establish a three-year subsidy program to help operators build more competitive fishing vessels have been signed into law by President Eisenhower.

The extension of the useful life of ships covers those built since January 1, 1946 and effects the length of operating subsidy contracts, Government-insured mortgages and amortization. Until now the useful life has been 20 years.

The fishing vessel subsidy bill breaks new ground. It requires that segments of the fishing industry—such as tuna fishermen—apply to the Tariff Commission for escape clause relief and receive a favorable decision which can only be rejected by the President.

There is a maximum outlay of $2,500,000 per year on the program. The bill would pay up to one-third the domestic cost of a new ship to help equalize the lower costs of foreign-built fishing craft.

Trade-In Policy To Remain Unchanged

The Committee of American Steamship Lines (CASL), made up of subsidized lines, has urged the Maritime Administration to change its policy of using the restricted world market value to set the trade-in value of ships under the trade-in-and-build program and to use the domestic value, which is usually higher than the world value. The Maritime Administration has refused to make this change.

In reviewing its policy, set down in January of last year, the Government Agency decided that it should not adopt a policy of varying its valuations from time to time on the grounds that Congress did not intend in establishing the trade-in-and-build program that the highest value should be set on the older vessels in every case.

Gibbs Wins Contract For Research Vessel

A contract for the construction of an oceanographic research vessel has been awarded to Gibbs Corporation, Jacksonville, Fla. Although no official prices were submitted, it is reported that Gibbs' low bid was for approximately $3,000,000, with the next low bid about $40,000 higher.

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ESTABLISHED 1939

No. 13 Volume 22

Maritime Reporter is published the 1st and 15th of each month by **Maritime Activity Reports, Inc.,** with publishing office at Hoboken, New Jersey; executive, advertising and editorial offices at 107 East 31st Street, New York 16, New York.

Accepted as Controlled Circulation Publication at Hoboken, N. J.

Subscription: $5.00 for Two Years
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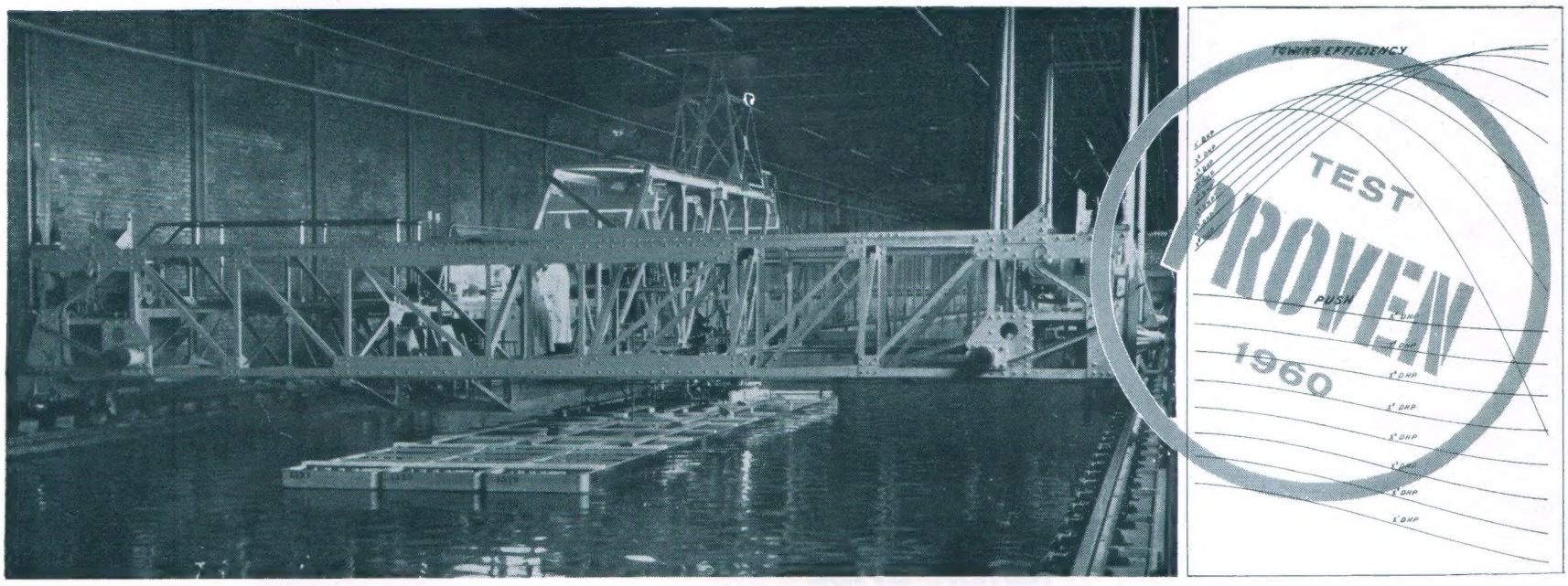

St. Louis Ship tests and proves the superiority of its designs!

Tank testing of models of towboats and barges has been an established procedure of St. Louis Ship for many years. Beginning with dynamometer testing of towboats in 1934 St. Louis Ship has had a continuing program of model testing and dynamometer testing.

For a number of years resistance tests on barge models were conducted at the test tank of the University of Michigan. Tests were also made at Stevens Institute of Technology, Hoboken, N. J.

St. Louis Ship engineers have made numerous trips to Nederlandsch Scheepsbouwkundig Proefstation (Netherland Shipbuilding Experiment Tank) in Wageningen, Holland. Here it is possible to run self-propelled tests on towboats or barges, alone, or made up as a tow. Hull designs, propellers, kort nozzles, and rudders are carefully evaluated to produce the most efficient design.

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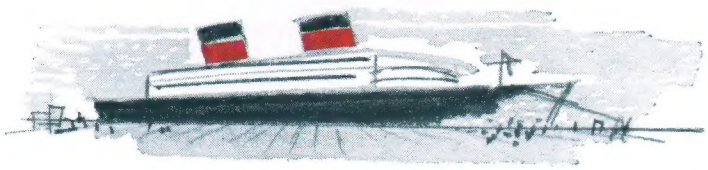

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Since PLI-MOOR can be used in any application calling for large marine rope, demand is exceeding supply. Better place your order for COLUMBIAN PLI-MOOR *now!*

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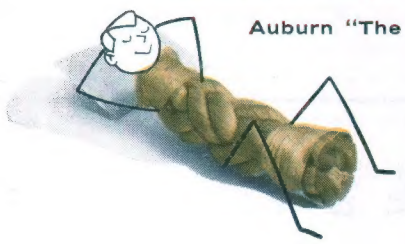
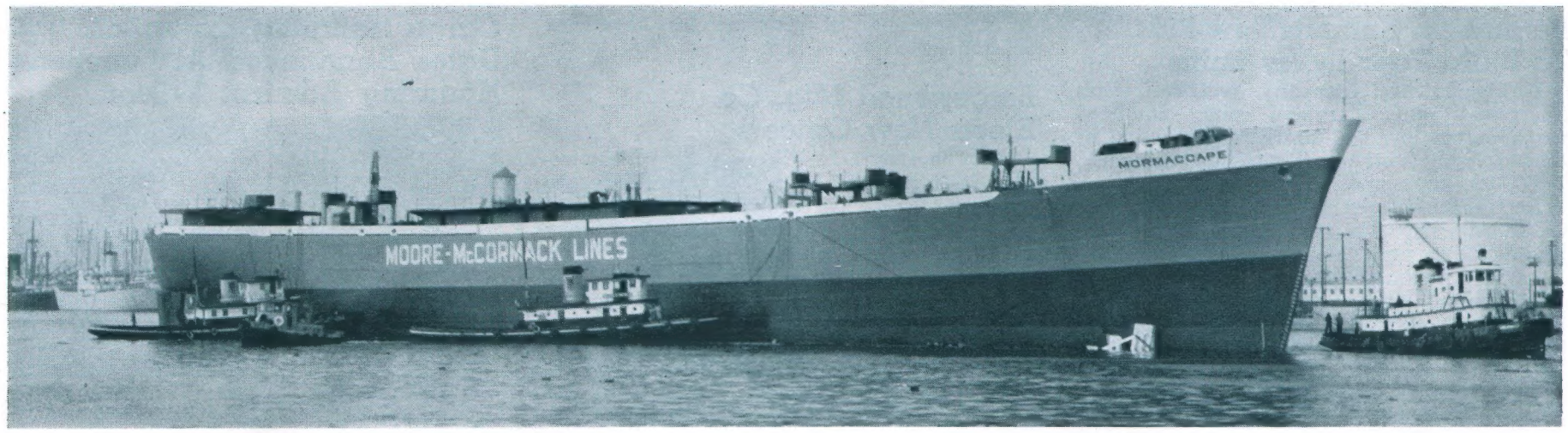


The Rope That Relaxes Between Jobs



Todd Shipyards Corporation Launches

The SS Mormaccape

Third Cargo Liner In Extensive Moore-McCormack Replacement Program Will Transport A Variety Of Oil Products And Chemicals In Plastic Lined Deep Tanks.

The first major ship to be built in the Los Angeles area since World War II, the S.S. Mormaccape, was launched on June 6th at the Los Angeles Division of Todd Shipyards Corporation, San Pedro, Cal. Especially designed for Moore-McCormack service, the new vessel is the third cargo ship in Moore-McCormack Lines $430,000,000 ship replacement program.

The principal speaker at the launching ceremonies was Hon. **Cecil R. King,** Congressman from the Seventeenth District, California, who has always been a staunch advocate of a strong Merchant Marine. The invocation was given by Rt. Rev. Msgr. **George M. Scott,** Pastor of Mary Star of the Sea Church, San Pedro. **Mrs. R. Stanley Dollar, Jr.,** of San Francisco was the sponsor and symbolically christened the ship with California champagne. The affair was hosted by **J. F. Goodrich,** General Manager of Todd's Los Angeles Division.

Others taking part in the official schedule were Rear Admiral **Robert C. Lee** (ret.), Chairman of the Board **William T. Moore,** President of Moore-McCormack Lines, Inc., **J. T. Gilbride,** President and **John D. Reilly, Jr.,** Executive Vice-President of Todd Shipyards Corporation; Hon. **Thomas E. Stakem, Jr.,** Vice-Chairman of the Federal Maritime Board, and **James E. Daniels,** Regional Director, I.U.M.-S.W.A. Local No. 9, CIO-AFL. Notable guests included Hon. **Vincent Thomas,** California State Assemblyman, 68th District; and **Raymond C. Kealer,** Mayor, City of Long Beach. The launching ceremony was also attended by other executives, officials and employees of the shipping company and the shipyard, with their families, representatives of the Maritime Administration, U.S. Navy, American Bureau of Shipping, U.S. Coast Guard, Industry, Labor and Civic and State Officials. Approximately 5,000 persons witnessed the launching.

Called a C3-1624 type, the Mormaccape is 458 feet, two and one-half inches long and of 10,460 dead-weight tons. She and her sisterships embody a number of unique features. Among these are: Deep tanks constructed within the hull of the vessel are plastic lined and capable of carrying a wide variety of oil products and chemicals in liquid or dry form; 40,000 cubic feet of refrigerated space and a total bale cubic capacity of approximately 600,000 cubic feet; quick acting hydraulic hatch covers over all cargo spaces and deep tanks; full-scantling hull construction designed to eliminate interference to hatch combings and other obstructions in the shelter deck; hydraulic cargo winches and electric topping lift winches—10 tons lifting capacity at all hatches and 50 tons lifting capacity at Numbers 3 and 4; highly efficient hull form for high speeds at minimum power during good weather and to minimize hull and topside damage during adverse weather without sacrificing speed; provision for stowage of 8,000 cubic feet of cargo under cover on deck; open type stern frame with balanced rudder, nialite corrosion resisting propeller.

Specifications also provide for a 12,100-shp main propulsion plant sufficiently powerful to develop 19 knots under normal operating drafts. The plant consists of cross-compounded turbines coupled together through an articulated type of double reduction gear. Two "D" type boilers generate steam at 600 psi, 850 degrees F.

Two 600 KW turbine driven generators furnish 440V alternating current through a group control type electrical system. These are supplemented by a 75KW Diesel driven emergency generator. Auxiliaries are electrically driven, except for the feed pumps and cargo oil pumps, which are steam driven.

Control of the engineering plant is centralized, with operating consol at the centrum of the machinery space.

"Flash" evaporator equipment, capable of distilling 10,000 gallons a day, is specified. Corrosion resisting metals and plastic materials in piping systems are used extensively.

Lifeboats are of plastic. The ships are to be equipped with the most modern radar, radio and other electronic systems. An electric steering system, controlling an electro-hydraulic steering engine, is provided for . The specifications call for widespread use of plastic paints, compositions, and tiling to lessen corrosion and reduce maintenance time.

These ships will have dummy stacks—smoke gases are emitted through kingposts on the after deck.

Each ship will have de luxe accommodations for 12 passengers, a luxuriously furnished lounge for use of passengers, and a swimming pool.

At the San Pedro plant during World War II Todd constructed, converted and repaired scores of vessels for government agencies and commercial operators. Several million dollars have been expended to rehabilitate its shipbuilding ways and facilities. The yard also has contracts for three additional combination cargo-passenger vessels, 528 feet long, and a missile carrier, comprising an $85,000,000 shipbuilding program.

Shown at the reception following the launching of the Mormaccape are left to right: **William T. Moore,** President of Moore-McCormack Lines, Inc.; **Mrs. R. Stanley Dollar, Jr.,** Sponsor; **John T. Gilbride,** President of Todd Shipyards Corporation; **Mrs. Linn Alexander,** Matron of Honor, and **J. F. Goodrich,** General Manager of Todd's Los Angeles Division.

Bethlehem Submits Low Bid To Build Four Lykes Ships

Bethlehem Steel Company, on behalf of its Sparrows Point, Maryland yard, submitted the apparent low bid for the construction of four Lykes Brothers Steamship Company, 11,000-ton dry cargo ships.

Bethlehem offered to build the ships for $8,996,000 each on a fixed price basis and for $8,568,000 on an adjusted price basis.

Ingalls Shipbuilding Corporation of Pascagoula, Miss., was next closest with a fixed price of $9,240,100 and an adjusted price of $8,717,075. Fourteen other yards submitted bids.

These vessels constitute the third group to be constructed for Lykes Brothers in the company's $500,000,000 ship replacement program. Nine ships of this same class have been ordered.

Lidgerwood Mfg. Co. Elects New Officers

Announcement has been made of the recent re-election of **Louis D. Tenerelli** to the presidency and chairmanship of the Board of Lidgerwood Manufacturing Company. **John Reid** has been elected Vice-President, General Sales Manager and Director of the company, being promoted from Manager of its marine sales division. **Joseph E. Monaghan** was elected Secretary and General Counsel; **E. Freeman Pearce,** Treasurer, and **Gilbert L. Reeh,** Assistant to Mr. **Tenerelli.** The company manufactures and engineers ship stabilizers and other marine equipment.

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Cargo Handling Exposition Dates Announced At Luncheon Honoring Admiral Wilson

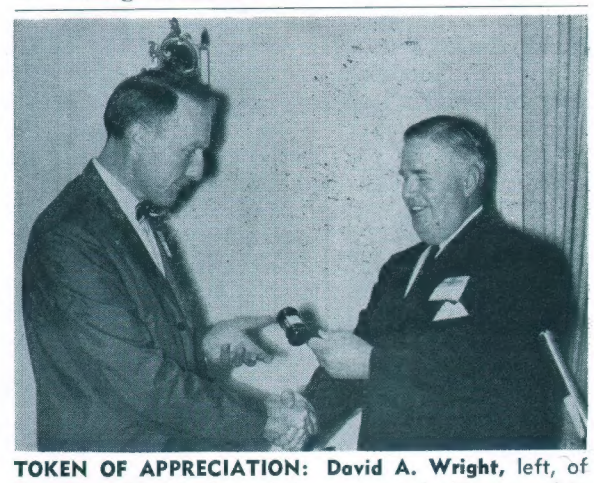
From left: **Sheldon B. Fidelman,** Rear Admiral **Gordon McLintock,** Superintendent U.S. Merchant Marine Academy, Vice-Admiral **Ralph E. Wilson,** USN (ret.), Nominee to the Federal Maritime Board, Brigadier General **F. T. Voorhees,** USA (ret.), Highway Trailer Company, and **John H. Thomas,** Director of Maritime Affairs of the Kings Point Alumni, Coordinator of the Exhibition and Marine Manager of Perolin Company.

On the occasion of a luncheon in honor of Vice-Admiral **Ralph E. Wilson,** USN (ret.), **Harry D. Hunter,** President of the Port of New York Chapter of the Kings Point Alumni Association announced that a Cargo Handling Exposition and Symposium would be held September 27, 28 and 29, 1960 in New York City. The Cargo Handling Exposition will be sponsored by the New York Chapter of the United States Merchant Marine Academy Alumni Association (Kings Point Alumni) with the cooperation of the Department of Marine and Aviation of the City of New York. The International Cargo Handling Coordination Association, the American Standards Association and the United States Merchant Marine Academy will be the joint sponsors of the Symposium.

This exposition and symposium will be held at Pier One, North River, which has been made available by Commissioner **Vincent A. G. O'Connor,** Department of Marine and Aviation, New York City.

A "Containerama" demonstration area on the pier apron will provide exhibition space for manufacturers to arrange working displays of their products.

Sheldon B. Fidelman, Naval Architect with John J. McMullen Associates, Inc., 17 Battery Place, New York 4, N.Y., has been elected Chairman of the program committee to handle all arrangements for exhibitions and speakers.



TOKEN OF APPRECIATION: David A. Wright, left, of New York City, is shown being presented with a gavel in appreciation for his service to the shallow-draft water carrier industry as Chairman of the Board of Directors of The American Waterways Operators, Inc., last year. Presenting the gavel to Mr. **Wright** is **Robert L. Gray,** of Ashland, Ky., presently Chairman of the Board. Mr. **Wright,** now serving as a Director of the Association, is President of the National Marine Service, Inc. Mr. **Gray** is Transportation Manager of the Operations Department, Ashland Oil & Refining Company, Inc. The presentation was made during the annual spring meeting of the AWO Board of Directors in Seattle, Wash., last month.

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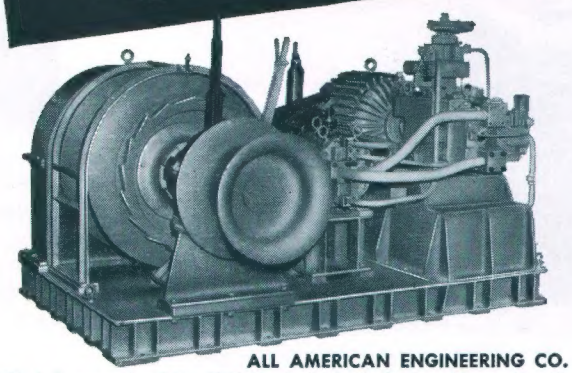

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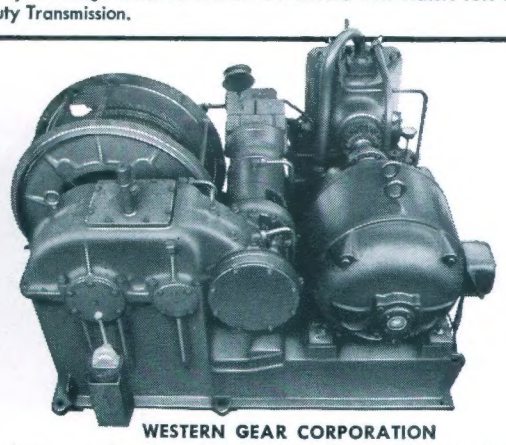

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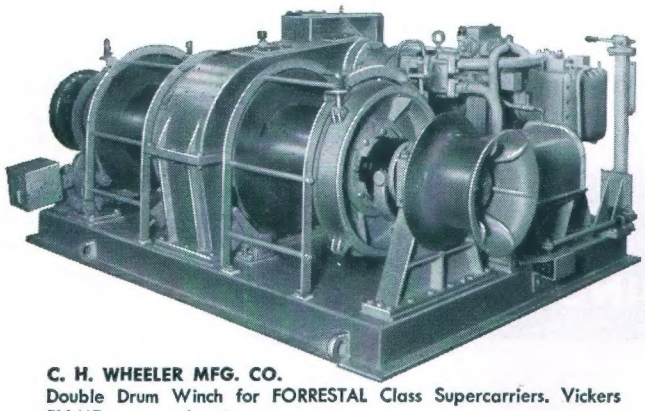
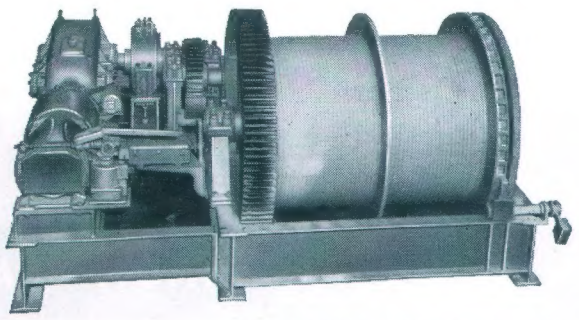
Modern cargo handling winch for the nine new Moore-McCormack passenger and cargo ships with Vickers hydraulic drives.



C. H. WHEELER MFG. CO.
Double Drum Winch for FORRESTAL Class Supercarriers. Vickers PV-MF pump and motor.



SKAGIT STEEL AND IRON WORKS
Three-Hundred-ton Gatelifter Winch Assembly for St. Lawrence Seaway. Controlled power by Vickers oil-hydraulic units.

In six short years more than 550 marine winches with Vickers hydraulic drives have been built. Nearly every major U. S. Deck Machinery Manufacturer has had a part in developing and building these electro-hydraulic winches.

For the marine user, these winches offer impressive advantages in faster, safer cargo handling. The Vickers hydraulic drives which power them bring a new high to winch performance: True stepless speed control in both hoist and lowering positions, infinitely variable speeds, fast acceleration/deceleration, smooth fast reversal, precise speed and load control and ultra-reliability.

Horsepower output to input of these Vickers hydraulic transmissions exceeds 85% efficiency at full load. These units afford more horsepower per unit of bulk and weight than other drives. Protection against overload or power failure is inherent within their design.

If there are ships in your future, our engineering experience and capabilities can be of help to you. Vickers units and systems are the result of more than 56 years of pioneering efforts in applying hydraulics to commercial and naval vessels.

VICKERS HYDRAULICS are also used to power specialized cargo handling systems, anchor windlasses, steering gear and other marine equipment. Write for a copy of Bulletin 5300.

For more information on the advantages of Vickers electro-hydraulic systems and drives for your ships contact the nearest Vickers District Office or call Waterbury, Connecticut, PLaza 6-3681 (TWX: WBY 160).

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RTC Low Bidder On Ferryboat For Delaware

RTC Shipbuilding Corporation, Camden, N.J., with a price of $43,-983, is the apparent low bidder for construction of a 65-foot steel ferryboat for the State of Delaware, Dover, Del.

Designs for the contemplated boat, which is to be capable of transporting three passenger cars or two trucks, have been prepared by **George E. Meese,** Naval Architect, Annapolis, Md.

Wiley Delivers Dredge And Derrick Barge

Paul C. Krueger, President of Wiley Manufacturing Company, Port Deposit, Md., subsidiary of Republic Industrial Corporation, has announced the completion and delivery of the dredge Conrad to C. J. Langenfelder & Son, Inc., of Baltimore. The function of this special purpose equipment will be to dredge oyster shells from Chesapeake Bay. The shells are carefully washed and then transported by barge to another area for planting.

Wiley also delivered a derrick barge to McCormack Sand & Gravel.

The current construction program at Wiley includes 10 sand and gravel barges for McCormack, a deck barge for Atlantic, Gulf & Pacific and five tunnel tube sections for Diamond Construction Company. The Port Deposit yard was recently awarded a contract by Great Lakes Dredge & Dock Company for the construction of two 1,500-cubic-yard dump scows.

Douglas T. Abbott Named Vice-President Of Columbian Bronze

Douglas T. Abbott

In a move to coordinate sales, production and engineering operations Columbian Bronze Corporation, Freeport, N.Y., appointed **Douglas T. Abbott** Vice-President and Assistant General Manager, it was announced by the company's President, **Bernard N. Ames.**

Mr. **Abbott** is a graduate of Pratt Institute and a licensed professional engineer. He joined Columbian in 1942 as an engineer, became Chief Engineer in 1944 and served since 1957 as Vice-President for Sales and Engineering. He is a member of the Society of Naval Architects and Marine Engineers and the American Foundrymen's Society.

Columbian Bronze Corporation is one of the country's largest manufacturers of commercial marine and pleasure boat propellers.

Stigler Designated MA Assistant Deputy

Assistant Deputy Maritime Administrator **William A. Stigler** has been designated the Assistant Deputy for Administration. He will have direct responsibility for the Administration within the Maritime Administration of Personnel, Budget and Management, Property and Supply, Security and Ships Statistics.

This brings the organization of the Maritime Administration in line with that of the other agencies in the Commerce Department.

Navy Tender Propulsion Contract Awarded To GE

The General Electric Company, Schenectady, N.Y., has announced that it would supply equipment totaling nearly $1,000,000 for propulsion and ship service power for a new Navy tender for the nuclear fleet ballistic submarines.

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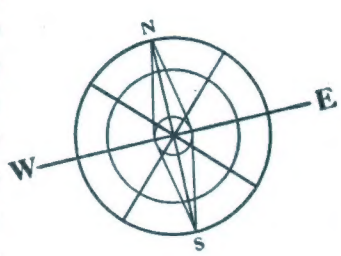

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FORESIGHT IS BETTER THAN HINDSIGHT

A rowboat must have been designed for people who like to see where they've been, rather than where they're going. Which is OK if there aren't too many hazards around.

But in the case of the new synthetic fiber ropes, foresight is a lot better than hindsight. There's still a lot of uncharted water in this area — and too many rope users are learning the hard way that the synthetics, marvelous as they are, can't be used haphazardly and without a proper margin of safety.

It isn't what you think these ropes will do, but what you know they'll do.

We, at K-ting Rope, have always made it a point to emphasize the right rope and the right size for each job, based on tests and experience. If there's any question we prefer to err on the side of safety. This saves you money — in broken rope and in the even bigger losses that can result from a parted line

To be sure you're safe always use a K-ting Rope that's engineered for your job, and use it in the K-ting recommended size. It's the kind of foresight that pays off in a assured satisfaction.

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Distributors in leading ports and cities throughout the U. S.

New York Ship To Build Nuclear Sub Costing 26 Million

New York Shipbuilding Corporation's volume of work ahead was boosted to approximately $236,800,000 with the award of a $26,133,753 competitively bid contract for the construction of a nuclear-powered attack submarine for the U.S. Navy, according to **Edward L. Teale,** President.

The new contract brings to three the number of nuclear submarines to be built by New York Ship, which operates as a subsidiary of Merritt-Chapman & Scott Corporation. The yard was awarded the contract for the first two vessels on March 3, 1959. Construction of the first of these was started March 14, 1960.

Engineering work on the new vessel will begin at once, with actual construction scheduled to begin in about three months, according to Mr. **Teale.** His estimate was that the new contract would provide continuing employment for approximately 800 yard workmen. The corporations work force at present is approximately 11,400 persons.

This nuclear-powered submarine will be of the same class as the USS Thresher (SSN-593), a single screw vessel, 274 feet in length by 32 feet in the beam, displacing 3,250 tons. Designed for high underwater speed and protracted underwater cruising, this type of submarine is equally effective against enemy submarines as against surface ships.

Apart from the three nuclear-powered submarines, vessels under contract at the 237-acre yard include the NS Savannah, the world's first nuclear-powered passenger-cargo vessel, the USS Kitty Hawk, the Navy's first super aircraft carrier to be armed with guided missiles, two 10,210-deadweight ton dry cargo vessels, six guided-missile destroyers and two guided-missile frigates.

Bank Seeks Buyer For Steamer Canadiana

The Lucas County Bank, Toledo, Ohio, has purchased at auction for $30,000 the steamer Canadiana, one of the last excursion boats on the Great Lakes.

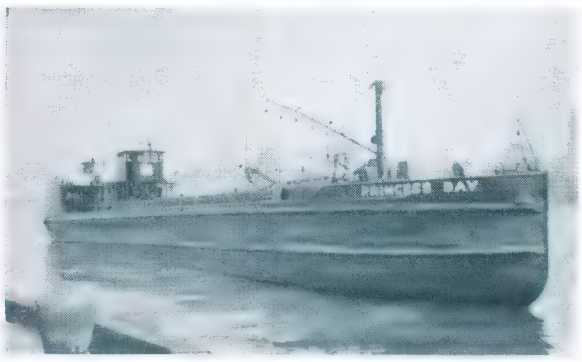
Joseph Nathanson, an attorney for the bank, said the bank planned to find a buyer who will keep the vessel in operation.

The three-decker, certified to carry 2,500 passengers and a crew of 34, was appraised at $52,000 for salvage and $80,000 as an operating ship.

United States District Judge **Frank L. Kloeb** on April 20, ordered her sold on a foreclosure action by the Lucas County Bank for an unpaid mortgage of $30,000.

Robert Taggart, Inc. At New Quarters

Robert Taggart Incorporated, Marine Research and Development organization, recently announced the removal of its offices to new and larger quarters at 400 Arlington Boulevard, Falls Church, Va.



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Since 1958 a Kahlenberg 750 SHP Model E-6 Turbo charged Diesel has supplied the main power in the 200' tanker "PRINCESS BAY" owned by Eastern Tankers of New York City. The "PRINCESS BAY" now makes more trips than ever before at less cost per trip running 24 hours per day, seven days a week.

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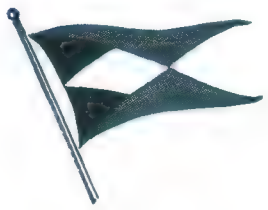

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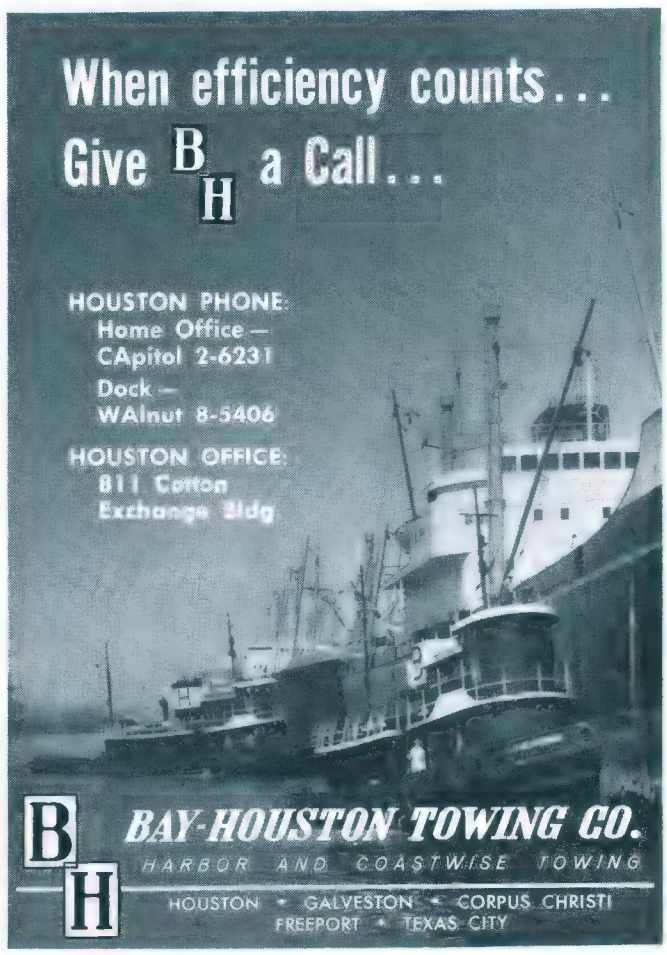

CALMAR AND MARVEN CITED: A special citation by the U.S. Department of Health, Education and Welfare was awarded to Calmar Steamship Corporation and Marven Steamship Corporation, subsidiaries of Bethlehem Steel Corporation, for sanitary conditions aboard their ships. **Malcolm C. Hope,** (right) Chief of the General Engineering Program of the Health Department made the presentations to **Robert J. Jurgen** (left), President of the two steamship companies. All the ships of the two companies achieved a rating of 95 or better on an official Public Health Service inspection involving 166 separate items of sanitary construction and maintenance.

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MORAN puts America's most modern and versatile tug fleet to work for you. Right around the clock you have call on the full power you need for every size of vessel, for every emergency requiring immediate action. It comes to you at the lowest cost because MORAN keeps moving ahead . . . with newest equipment, with personnel trained to operational efficiency.

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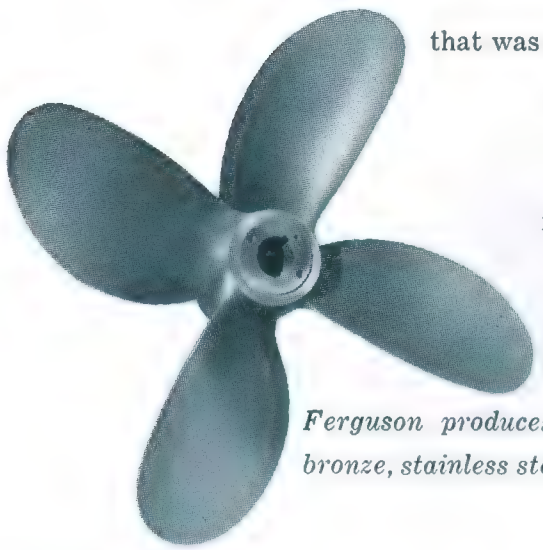
The best costs less

When you operate a large ocean vessel or a small harbor craft, the propeller is one of your most valuable pieces of equipment. If it's a wheel that was purchased because low price was the *prime* factor, it might seriously affect your operating schedule. If it's made by FERGUSON, you can be assured it will have a longer life, give peak performance and result in top fuel economy ... and actually cost less in the end.



Ferguson produces propellers of many materials including manganese bronze, stainless steel, nickel aluminum and nickel manganese compositions.

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SNAME Spring Meeting—1960 Outstanding Success

Classed as one of the best, the 1960 Spring Meeting of the Society of Naval Architects and Marine Engineers presented an excellent combination of technical papers and tours and social events. The Chesapeake Section acted as host and planned the meetings held in Washington, D.C., at the Statler-Hilton Hotel on May 26 through May 28.

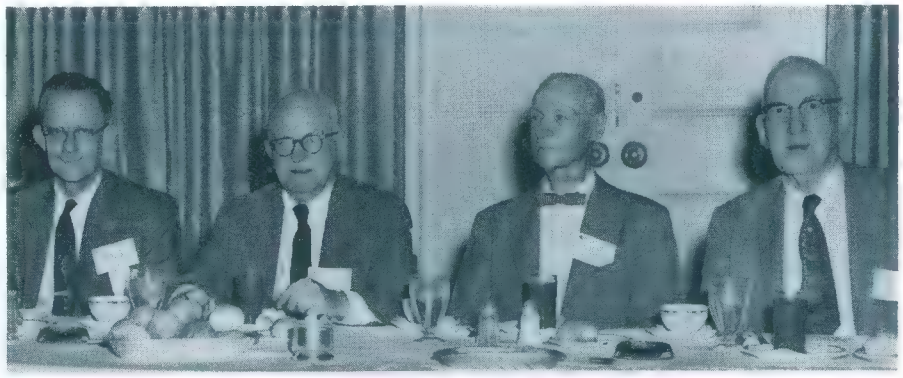
Four technical papers were presented at the two morning sessions on widely varying but timely subjects. The first afternoon tour consisted of an inspection of the David Taylor Model Basin at Carderock, Md. Here the various facilities for the complete model testing of vessels were demonstrated. On Friday the afternoon was left open for sightseeing and other personal activities.

The Saturday schedule included a tour of Baltimore Harbor on the motor vessel Port Welcome as guests of the Maryland Port Authority. Following the tour of the harbor, the group visited historic Annapolis and toured the Naval Academy.

The informal noon luncheons on Thursday and Friday were highlighted by outstanding speeches

(Continued on page 17)

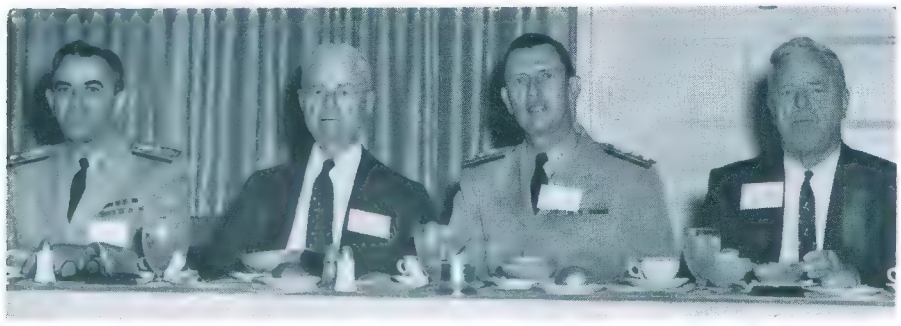
Officers of the Society of Naval Architects and Marine Engineers; left to right: Harold M. Wick, Chairman, Public Relations Committee; C. C. Knerr, Assistant Treasurer; Rear Admiral Albert G. Mumma, USN (ret.), President; Captain W. N. Landers, USN (ret.), Secretary; Captain M. H. Gluntz, USN (ret.), Administrative Assistant, and L. H. Blodgett, Editor.



Dais at first luncheon: left to right: M. M. Earle, President, Chesapeake Section; D. P. Brown, President, American Bureau of Shipping; Wm. Binley, retired, 50-year Member, and Professor H. L. Seward, retired.

Principal speaker at the dinner-dance, John T. Connor.

Speaker at the second luncheon, W. E. Blewett, Jr.



Dais at second luncheon: left to right: Rear Admiral R. K. James, USN; H. Gregory, retired, 50-year Member; Rear Admiral E. A. Wright, USN, and Captain H. E. Saunders, USN (ret.)

Dais at second luncheon: left to right: Rear Admiral J. M. Farrin, USN; D. P. Brown, Treasurer of the Society; Vice-Admiral E. S. Land, USN (ret.), and W. E. Blewett, Jr., President, Newport News Shipbuilding and Dry Dock Co.

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Instead of being made with a solid disc, new, patented Crane Flex Gates have separate disc faces, connected by the axle-like unit shown in the cross section. This joins the two seating faces, yet provides flexibility for the faces to seat tightly with independent action.

BECAUSE THEY'RE FLEXIBLE, new Crane Flex Gates seat with less torque.

BECAUSE THEY'RE FLEXIBLE, new Crane Flex Gates unseat with less torque . . . will not stick closed even when closed while hot and allowed to cool.

BECAUSE THEY'RE FLEXIBLE, minor deflection of seating faces due to pipe strains does not affect tightness of Crane Flex Gates.

BECAUSE THEY'RE FLEXIBLE, new Crane Flex Gates are tight on inlet seat and outlet seat over a wide range of pressures.

BECAUSE THEY'RE FLEXIBLE, new Crane Flex Gates can be used singly in some services where two conventional gate valves are frequently specified. You can save substantially on piping costs.

BECAUSE THEY'RE FLEXIBLE, new Crane Flex Gates can be serviced—body seat rings replaced or seating faces refinished—quickly, and without painstaking accuracy. Slightly off-taper seats do not affect tightness or operating ease.

BECAUSE THEY'RE FLEXIBLE, new Crane Flex Gates will easily outperform any conventional solid wedge disc valve you now use. *And there's no increase in price.*

BECAUSE THEY'RE MADE BY CRANE, these new Flex Gates are completely dependable. You can use them with complete confidence on steam, water, gas, oil or oil vapor service. Stem and disc seating faces are Crane Exelloy. Shoulder-type body seat rings are Exelloy or Crane No. 49 Nickel Alloy. Sizes: 12 inch and smaller; 150- and 300-pound pressure classes.

Ask your Crane Distributor for full information on Flex Gates—and for data whenever you work with the products Crane makes. He has the newest in information and products. Crane Co., Industrial Products Group, 4100 South Kedzie Avenue, Chicago 32, Illinois.

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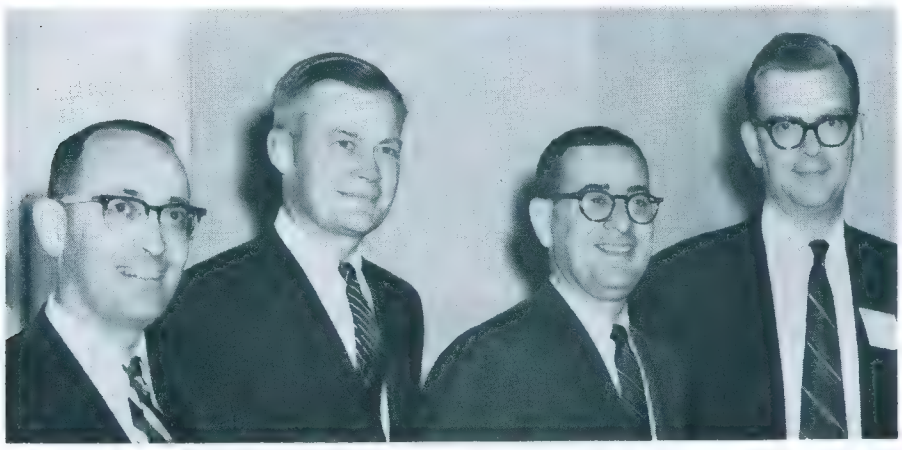
Authors at first Technical Session: Lieutenant Commander Venning, USN (appearing for W. B. Morgan), Wm. E. Cummins, Mrs. M. D. Bledsoe and Otto Bussemaker.



Authors at second Technical Session: Lester Rosenblatt, T. M. Buermann, R. J. Della Rocca and Jan-Olof Traung of FAO, Rome, Italy, a discussor.

(Continued from page 15)

given by Rear Admiral **R. K. James,** USN, and **Wm. E. Blewett, Jr.,** President of Newport News Shipbuilding and Dry Dock Company. An informal get-together was held at the Army-Navy Club on Thursday evening. The dinner-dance, held on Friday evening, was addressed by **John T. Connor,** President, Merck & Company.

Admiral **James** gave a strongly worded speech calling upon the U.S. maritime industry to institute a program of revitalization. He pointed to the decline of ship construction in U.S. yards destined for delivery to U.S. operators due to rising costs. Admiral **James** enumerated the number of ships being taken out of commission through obsolescense each year by the U.S. Navy, and cited the problems of replacement due to cost increases. He called for significant advances in technology to give superiority to U.S. shipping in both naval and merchant shipping areas. The Admiral stated that the Bureau of Ships and the Maritime Administration are currently carrying out extensive discussions with shipbuilders and suppliers to suggest overcoming the danger of U.S. industry being priced out of the shipbuilding business. In summing up, Admiral **James** made a strong recommendation that the shipping industry itself overcome some of its past lethargy and program into its operations independently supported research in various areas.

As is customary at these Spring Meetings, there was a full program of activities planned for the ladies. The arrangements included a guided tour of the national and historical spots in the Washington-Virginia area and a tour of the National Housing Center.

Rear Admiral **Albert G. Mumma,** USN (ret.), President of the Society and Vice-President, Engineering, Worthington Corporation, presided at the two technical sessions. Two technical papers were presented at each session. These papers were:

"The Design of Counterrotating Propellers Using Lerb's Theory" by **W. B. Morgan,** David Taylor Model Basin. The objective of this paper was to make available to the naval architect a theoretical design method which is practical and widely applicable for wake-adapted counterrotating propellers operating at equal torque and rpm. A step-by-step procedure for such a design was developed in the paper.

"Seakeeping Trials of Three Dutch Destroyers" by **Otto Bussemaker,** Naval Architect, Bureau of Ships, Royal Netherlands Navy; **Margaret D. Bledsoe** and **William E. Cummins,** both of the David Taylor Model Basin. This paper reviewed the development of seakeeping trials on three Dutch destroyers. The project was carried out as a joint effort of the Royal Netherlands Navy and the David Taylor Model Basin. The ships were extensively instrumented to measure roll, pitch, heave, acceleration, vertical and transverse bending stresses and slamming pressures. The procedures followed in reducing the accumulated data to a workable form and the comparison of the results were given in detail.

"Fiber-Glass-Reinforced Plastics for the Marine Industry" by **T. M. Buermann** and **R. J. Della Rocca,** Gibbs & Cox, Inc., New York naval architects. The development of this relatively new material as a means for building hulls and other parts of boats and ships was discussed in detail. The basic materials are described along with their physical properties. Design criteria are given and guidance for the types of construction, selection of laminate and development of details were covered in detail. This paper is the result of years of research and practical applications.

Newly elected chairman of Chesapeake Section, J. Bruce Parker, of the Aluminum Company of America.

"Design of Modern Oceanographic Research Ships" by **Lester Rosenblatt,** M. Rosenblatt & Son, Inc., New York naval architects. This paper presented information on the oceanographer's principal tool—the research ship. The generally accepted requirements for research ships were discussed and several additional ship design features to meet the needs of this service were described. Methods of evaluating the efficiency of research ships were presented along with special features of equipment, propulsion machinery and outfit.

The Chesapeake Section, under the capable leadership of **M. M. Earle,** Chief Naval Architect, Maryland Shipbuilding & Drydock Company, is deserving of considerable credit for a well planned and executed meeting. The Steering Committee, which arranged the meeting, was under the Co-Chairmanship of Rear Admiral **James M. Farrin,** USN, Bureau of Ships, and **William H. Jory,** Senior Vice-President, Maryland Shipbuilding & Drydock Company. The meeting was well attended by members from all sections of the United States.

President of SNAME, Admiral A. G. Mumma, presenting testimonial to M. M. Earle, retiring Chairman of Chesapeake Section.

President's table at the dinner-dance held on May 27th.

SOLUTION: TALK TO PLYMOUTH

Many companies already have. The result: they've been able to make the transition from Manila rope to Synthetic smoothly. You can, too!

Here's a typical Plymouth recommendation—the kind you can get for the asking.

"These Plymouth recommendations for synthetic lines in your operations are not superficially made on tensile strength. They include the consideration of the many factors that make for economical rope costs year after year. You will note that tug sizes, horsepower, length of line and your particular towing conditions have been considered in choosing the size and type of line. The strength and elasticity of the recommended line are specifically adapted to your operation which requires running shortened up a good part of the time. The combination should result in the lowest operating rope cost per year.

"Another point should be mentioned—the kind of line used and its elasticity has an equally large effect on the design of line and on how the crews handle the tugs. Again, in general, with a strong elastic line like Nylon, the crews cannot always handle the tug as carefully as with Manila, for example—nor do they need to. With less elastic lines like Dacron, Polypropylene, etc., this change in technique lies somewhere in between that with Manila and Nylon. Allowances must be made accordingly. As new materials suitable for towing are available, we will include formulae similar to that for Nylon for their application."

The above is just a small excerpt from an actual report made to an important Gulf Coast customer. Your problem may be different. No matter. Let Plymouth help. No other company can even begin to match our 24 years of experience with synthetic ropes. Or our 136 years of talking cordage to marine people. Should your line be Nylon? How about "Dacron"? Or maybe a "Dacron"-Polyethylene combination? Polypropylene? Perhaps Prolene? The answer's at Plymouth. The time to talk is now. Write Plymouth Cordage Company, Plymouth, Massachusetts.

PLYMOUTH *first name in cordage . . . last word in synthetics*

Marinette Navy Barges Delivered By Turecamo To Portsmouth, New Hampshire

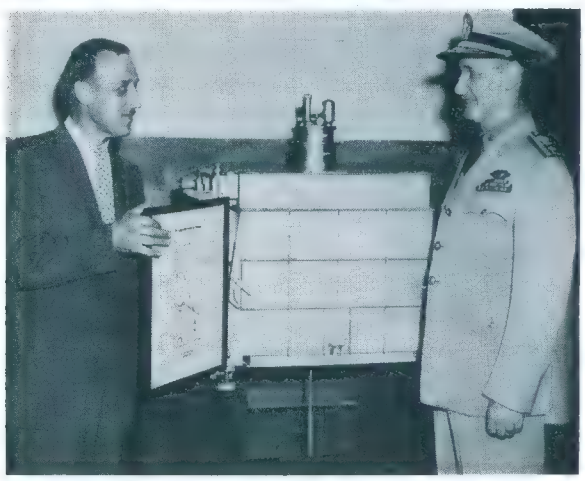
The Frances Turecamo leaving Marinette with the two Navy barges in tow.

The Marinette Marine Corporation of Marinette, Wisconsin, recently delivered two 110-foot submarine repair, berthing and messing barges to the U.S. Naval Shipyard, Portsmouth, New Hampshire. Designated YRBM 5 and 6 by the U.S. Navy, the barges have complete accommodations for 100 officers and men to live aboard.

The non-propelled barges have a beam of 36 feet and a height of 31 feet above the waterline. Their full load displacement is 245 tons. In addition to a galley and messing facilities, each barge has a machine shop, storerooms, and a ships office. The barges obtain electric power, steam and air from shore installations.

The YRBM 5 and 6 were towed in tandem from the shipyard to Portsmouth by the Turecamo Coastal and Harbor Towing Corporation, Brooklyn, New York. The delivery trip was made in 14 days via the Great Lakes, St. Lawrence Seaway, St. Lawrence River and down the Atlantic Coast to Portsmouth.

Air Preheater Operating Model Presented To USMMA



Joseph Waitkus, Manager of Marine Sales for the Air Preheater Corporation, presents a working model and diagram of the Ljungstrom® marine air preheater to Rear Admiral **Gordon McLintock,** Superintendent of the United States Merchant Marine Academy at Kings Point, N. Y.

The United States Merchant Marine Academy at Kings Point, N.Y., was recently presented with a model of a Ljungstrom(R) air preheater, scaled to one-quarter the size of a typical manufactured unit, designed to perform all operations of regular working units.

Rear Admiral **Gordon McLintock,** USMS, Superintendent at Kings Point, accepted the model on behalf of the Academy from **Joseph Waitkus,** Manager of Marine Sales for The Air Preheater Corporation, New York, N. Y.

Complete with all components, including a power operated cleaning device, the model will be used for instruction aid in the Academy's Engineering Classes. The base contains a mirror to view operations underneath the preheater, and several plastic windows are located on the side of the model for observing heating elements—a sample heating element basket is mounted on the base at the left of the model for study purposes.

Basically, these preheaters are rotary-type regenerative heat exchangers that accomplish continuous counterflow heat exchange between flue gas and combustion air for a reduction in fuel and an increase in boiler efficiency. The model, including base, measures 46 inches by 28 inches and is 64 inches high.

Frank Leahy Joins Otto Candies, Inc.

Cdr. **Frank W. Leahy,** USCG, (ret.), of Little Farms, La., has become associated with Otto Candies, Inc., of Allemands, La., as safety adviser.

Otto Candies, Inc., oil field boat contractors, operates one of the larger fleets of tugs, barges and crewboats in the Gulf Area.

Carrier Corporation To Provide Cooling For AEL Freighter

A contract to provide air conditioning for crew quarters and refrigeration for cargo space and ships' stores aboard the American Export Line freighter, Export Aide, was announced by Carrier Corporation.

The 10,210-ton freighter is currently under construction at the yard of the National Steel and Shipbuilding Company of San Diego, Calif. Cooling capacity for crew quarters will be the equivalent of that for 20 typical homes, and refrigeration will provide zero-degree cooling for some 32,000 cubic feet of cargo space.

Refrigeration and air conditioning have been provided by Carrier Corporation for more than 11,000 vessels, **Charles V. Fenn,** Vice-President, announced.

Supertanker S. S. Princess Sophie
Like most Distinctive Ships, their intercommunication equipment is (as you'd expect) Heavily Henschel
Cruise Liner Santa Rosa

They Often Sail Together

Shaft Speed and Rudder Angle Indicator Systems by Henschel monitor conditions continuously – and report them accurately—for more efficient and safer operation of *any* ship.

Henschel CORPORATION
Amesbury, Massachusetts

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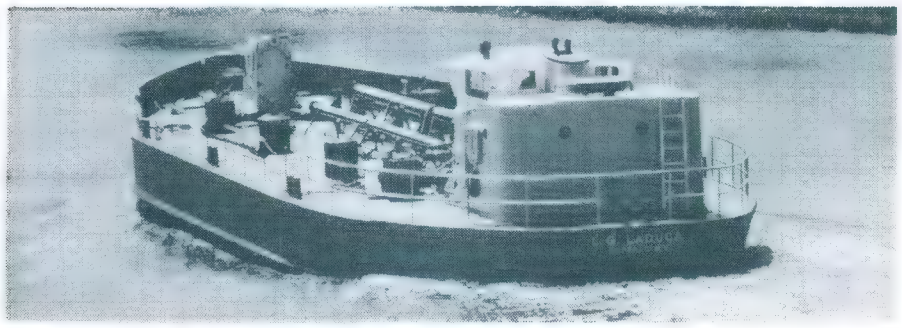
Supplements the Skill Of Ship Captains

. . . . and provides all the latest technological information for safer and faster crossings . . . suggests in advance the quickest and best route for each passage taking into consideration all weather, cargo and ship factors.

Blount Built Tanker Inaugurates Fast Refueling In Buffalo Harbor



The LaDuca shown en route to Buffalo, N. Y.

Blount Marine Corporation, Warren, R.I., has announced the delivery of the tanker L. G. LaDuca, a 4,400 bbl. bunkering vessel for the West Shore Fuel Company, Buffalo, N.Y. This vessel is 116 feet by 31 feet six inches by 12 feet six inches in depth and is the second tanker built by Blount for West Shore Fuel. The first, the Wm. H. Bennett, was built in 1950 and was the first craft built under contract by Blount. It is still in service in the Harbor of Duluth, Minn., as a bunkering boat.

The LaDuca is designed to make a complete fueling of approximately 50,000 gallons in 40 to 50 minutes, saving time for both Seaway and Great Lakes ships.

U.S. Coast Guard certificated for harbor service, the LaDuca is built of all-welded steel with total Grade "E" cargo capacity of 168,000 gallons. Fifteen thousand gallons of Grade "E" light oil are carried in wing tanks abreast of the machinery space. The bow of the tanker is reinforced for ice breaking.

Propulsion is by twin GM Series 6-110 marine Diesel engines rated at 220-hp each, at 1800-rpm direct coupled to three-and-one-half-inch steel shafts. A Fairbanks, Morse 3 KW Diesel generator supplies electricity and emergency pumping.

A double drum Stroudsburg winch is used for anchoring and hose hoisting. Oil burning Great Lakes ships and particularly Seaway ships calling at Buffalo will be serviced by the LaDuca. It will assure the Port of Buffalo one of the best bunkering services on the Great Lakes.

Two eight-inch positive displacement cargo handling pumps were supplied by Fairbanks, Morse & Company. The vessel is rigged for shore steam heating of heavy oil.

Delivery was made via the Hudson River and New York State Barge Canal to Buffalo in five days from Warren, R.I.

Inland Waterways Carry 40% Of All U.S. Waterborne Commerce

An official of one of the country's largest common carrier barge lines recently stressed the great importance of river transportation to the well-being of the American economy.

Robert Dickey III, Vice-President-Sales of Union Barge Line Corporation, Pittsburgh, Pa., told the Kiwanis Club of Coraopolis, Pa., that the inland waterways carried 387,000,000 tons of cargo last year, almost 40 per cent of all U.S. water-borne commerce. This, he said, represented eight per cent of all inter-city freight moved by all means, as compared with two per cent immediately after World War II.

"River transportation has been serving the United States for more than 200 years. Rivermen have been through some rough periods in those times, and at times river transport has been on the ropes. But the knockout never quite came. Rivermen set about improving their equipment and their service until today they are hauling more tonnage than ever before," according to Mr. **Dickey.**

Citing the railroads' role in our economy, he said:

"There is a place for the railroads and the truck lines, and a place for the barge lines. Without the railroads, the country would be paralyzed. As an industry, we have no interest in undermining the railroads. We are perfectly happy to take our share of the freight business and let the railroads and trucks have the share which is rightly theirs — all the freight they can carry faster and less expensively than their competitors."

The railroads' attempts to have Congress place tolls on river use is based on the contention that the barge lines alone benefit from the development of waterway resources, said Mr. **Dickey.** Instead, he pointed out:

"The actual beneficiary is the public itself, who has insisted upon these improvements so as to exploit the natural benefits of our rivers, including flood control, recreation, and a dependable water supply."

Low cost water transportation also benefits the public, Mr. **Dickey** noted, through stimulating industrial expansion. In the past eight years, more than 3,200 new water side plants have been built along the nation's 29,000 miles of navigable inland waterways. The reason, said Mr. **Dickey:**

"Essentially because industry required a dependable water supply and wished to take advantage of the economies of water transportation to bring in their coal or bulk raw materials and move finished products to market."

Mr. **Dickey** commented that the attempt by two major railroads to purchase a barge line—supposedly in an effort to improve service to shippers—"would provide the shipping public with nothing in the way of joint rates and services that is not legally available to it now."

At the same time, he emphasized, "It is the waterways industry's contention that this is a means to the end of the barge lines and should not be permitted."

Mr. **Dickey** traced the history and growth of river transportation, and stressed the importance to the operator of keeping his fleet of towboats and barges both modern and flexible. A barge line, he said, must tailor its equipment to the nature of its operations, the available cargoes, and the rivers on which it plans to operate.

For example, he said, because of lock restrictions and the number of barges that can be handled in a tow, a towboat in the 3,000-hp range is more efficient for the Ohio River than one of the larger, more powerful boats that can be economically employed on the deeper, lock-free Mississippi between St. Louis and New Orleans.

"It is interesting to note," according to Mr. **Dickey,** "that the so-called 'efficient-size' towboat for the various river sections has about doubled in horsepower in the last 15 years. As wage rates and other costs have increased, the economical horsepower has increased accordingly in the continuing effort to obtain the greatest productivity per man hour."

Supertanker Bill Passed By Senate

A bill authorizing the Commerce Department to advance money to prevent defaults on government-insured supertanker mortgages has been passed by the Senate and sent to the White House.

The legislation covers a number of supertankers, constructed after the Suez crisis. An oversupply of these vessels has lowered tanker rates to a point where it has been impossible for them to earn the payments required under their mortgages.

Maritime Reporter has a larger circulation to executives and key men **shoreside** in vessel operations, shipbuilding, ship repair and naval architecture than any other **two** marine magazines **combined.**

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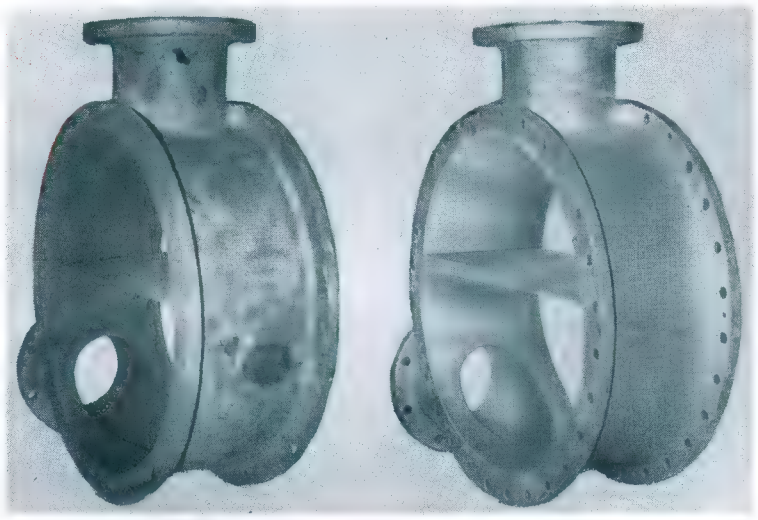

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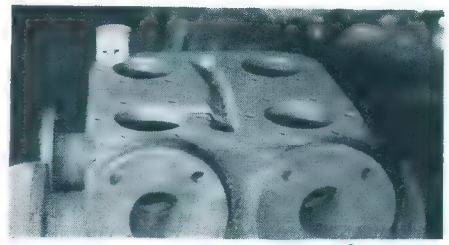

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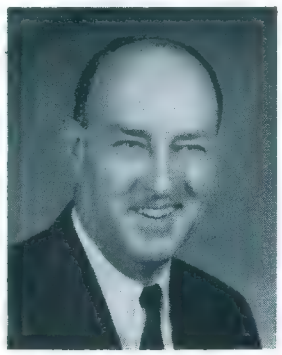
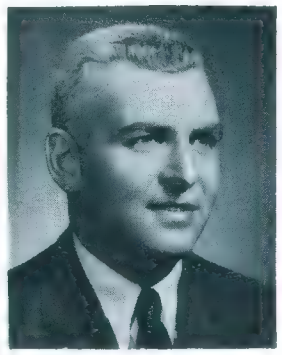
Bath Iron Works Announces Promotion Of Three Officers



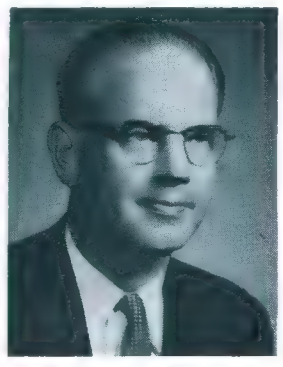
G. Baer Connard



Andrew B. Sides

G. Baer Connard, for many years Assistant to the President of the Bath Iron Works Corp., Bath, Me., has been promoted to the position of Assistant Vice-President, according to a recent announcement by **John R. Newell,** President of the company. Mr. **Connard** graduated from Massachusetts Institute of Technology with a degree in Naval Architecture and Marine Engineering in 1925. He joined Bath Iron Works in 1929, after a brief period of employment in European shipyards. Upon his promotion, the position of Assistant to the President was taken over by **Andrew B. Sides, Jr.,** who has been associated with the firm since 1953 as Assistant to the Purchasing Agent, Director of Purchasing, Assistant to the Manager of the Dixie Machinery Division, St. Louis, Mo., Sales Manager of the Pennsylvania Crusher Division, West Chester, Pa., and as Assistant to the Vice-President and Works Manager of the Bath Iron Works. Mr. **Sides** is a graduate of the United States Naval Academy, Class of 1946.

Arthur W. King



F. Merton Bradway

Upon the retirement of **Arthur W. King** on May 1, 1960, **F. Merton Bradway** was promoted Hull Superintendent of the Bath Iron Works Corporation, a position held by Mr. **King** since 1940. Mr. **King** has been associated most of his life with the Bath Iron Works in various capacities. Mr. **Bradway** joined the company in 1949 as Assistant to the Hull Superintendent. He was made Assistant Hull Superintendent in 1952. Prior to his association with Bath, he was employed by Bethlehem, Quincy, New England Shipbuilding Corporation, Portland, Me., and Quaker Shipyards, Camden, N.J. Mr. **Bradway** is a graduate of Webb Institute, Class of 1935.

Atom Icebreaker Study Aided By House Bill

A bill calling on the Coast Guard to study the feasibility of using nuclear energy to power icebreakers, has recently been passed by the House of Representatives. The measure, approved by voice vote, was sent to the Senate. It directs the Treasury, which supervises the Coast Guard, to build three cutters especially designed for icebreaker service in the Arctic and Antarctic.

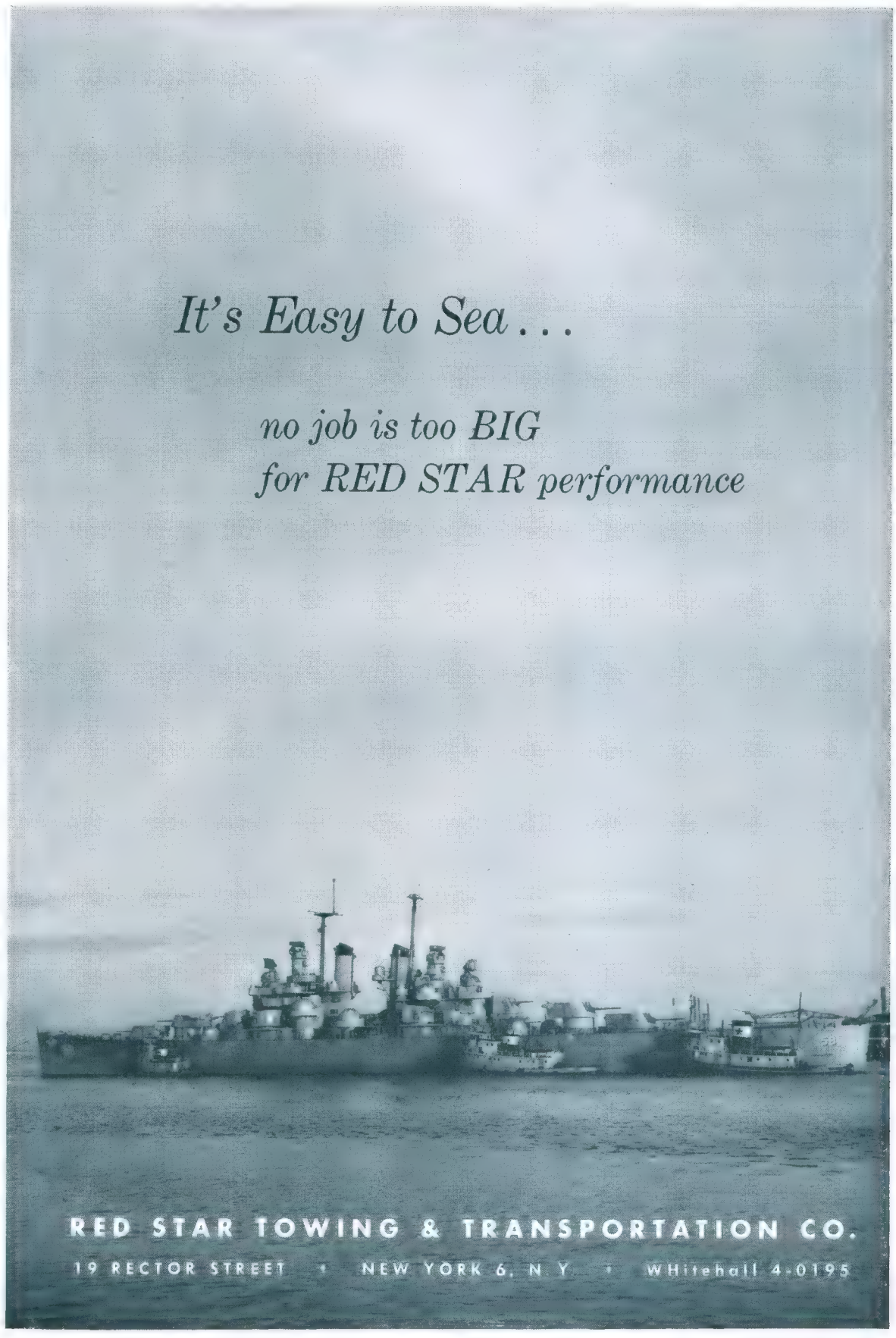
Maxim Machinery Moved To AMF-Beaird Plant

The J. B. Beaird Company, Inc., Shreveport, La., has added the manufacture and distribution of Maxim Silencers and heat recovery units to its existing product lines, according to a recent announcement by **John L. Tullis,** President.

The recent purchase of the Maxim Division from Emhart Manufacturing Company, Hartford, Conn., by American Machine & Foundry Company, New York, of which Beaird is a wholly owned subsidiary, made the acquisition of the Maxim products possible. Specialized machinery, jigs and fixtures used in producing the silencers, have been transferred to the Beaird plant, and the Shreveport-based company is already engaged in filling Maxim contracts.

No change is contemplated in the present Maxim sales agency arrangement, **Gerald Pope,** Beaird Vice-President of Sales, has stated. Maxim silencers are sold on a world-wide basis through independent manufacturer's agents. Implementing the sales of maxim products at Beaird will be the newly created Maxim and LP-Gas Equipment Sales Division under the direction of **Richard Meisenbach,** who formerly was Manager of the LP-Gas and NH3 Equipment Sales Division.

In addition to silencers and heat recovery units, the Maxim Division also manufactures sea water distilling plants, for use in ships, submarines and commercial and industrial installations. Beaird will also manufacture this complete line of equipment for sale and distribution by AMF. Much of this equipment utilizes Monel or stainless steel metals in manufacture.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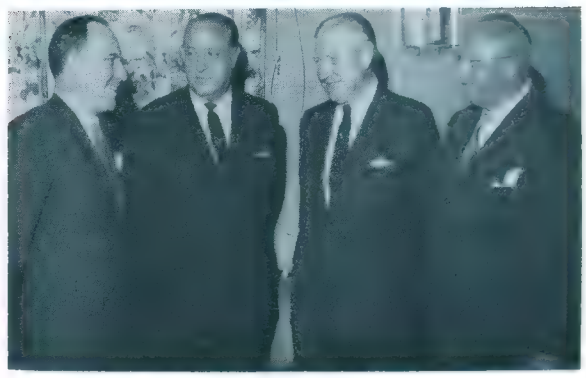
George Junior Republic Maritime Group Formed



Left to right: **James P. McAllister,** President, McAllister Brothers, marine lighterage firm; **Donald S. Stralem,** Chairman of the Board of the Republic; **T. J. Gilsenan,** Traffic Director of General Motors Overseas Operations Division, and **Gus P. Chiarello,** Vice-Chairman of the Maritime Associates.

James P. McAllister, President of McAllister Brothers, Inc., and a Vice-President of the George Junior Republic, has announced that more than 50 leaders of New York Harbor's marine enterprises have formed the Maritime Associates of the George Junior Republic. He added that the group had elected **Terence J. Gilsenan,** Traffic Director of General Motors Overseas Operations Division, as Chairman, with **Gus P. Chiarello,** of the Pittston Stevedoring Corporation, as Vice-Chairman.

In commenting on the aims of the Maritime Associates, Mr. **Gilsenan** explained that individual members of the group had for years supported the Junior Republic, a school community at Freeville, near Ithaca, N.Y., for teen-age boys and girls troubled with adolescent problems.

"We decided that we could do a far better supporting job together, then singly," Mr. **Gilsenan** said. "The George Junior Republic has recently embarked on a $2,000,000 Building and Development Program. We hope that we, through our concerted efforts, can make an outstanding contribution to this worthy cause."

The group had its first formal luncheon meeting at the Downtown Athletic Club on Monday, June 13, at which time plans for fund-raising activities were discussed.

Savannah Drydocked For Stabilizer Fins

The world's first nuclear-powered merchant ship, the N.S. Savannah, was drydocked in Camden, N.J., recently for the installation of anti-rolling fins and a coat of white paint.

Installation of the fins and stabilizing machinery, sandblasting the hull and coating the ship with a plastic paint will be done by New York Shipbuilding Corporation workers, according to a company statement.

Next the reactor core will be loaded in the nuclear reactor and the system put into operation. The propeller will be turned by nuclear power for the first time this summer. Extensive dock trials will take place before the Savannah puts to sea this fall.

Launching of the $41,000,000 passenger-cargo liner took place on July 21. She will undergo extensive sea trials and shake-down cruises well into 1961.

Weaver Shipyards To Build Cargo Boat For Shell Oil

Shell Oil Company has placed an order with Weaver Shipyards, Orange, Tex., for the construction of a 1,000-hp twin-Diesel cargo boat, measuring 135 feet by 36 feet by 10 feet six inches.

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At our new plant, over 90,000 square feet of space devoted to the marine industry, we manufacture fuel valves, pumps and injection parts for all types of diesel engines. We do electrolytic chemical cleaning of castings and centrifugal rebabbitting of bearings. We specialize in general ship and voyoge repairs of all types excluding only the dry docking of vessels.

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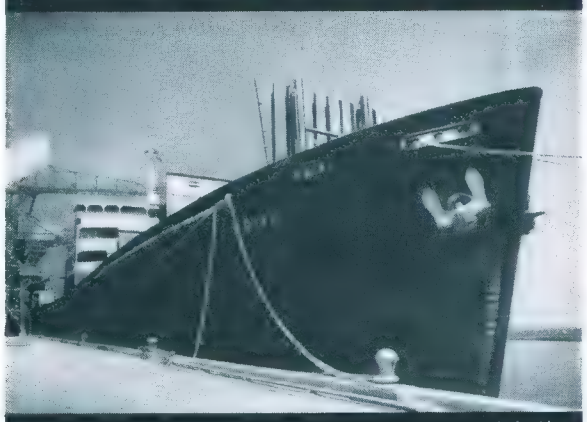
A FEW OF THE SHIPS RELYING ON EDO LORAN

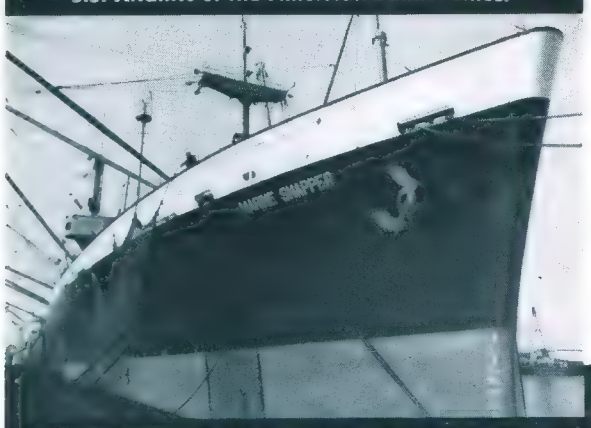
Nieuw Amsterdam of the Holland-America Line.



S.S. Edith of the Bull Steamship Lines.

Azalea City of the Pan-Atlantic Steamship Corp.

S.S. Atlantic of the American Banner Lines.



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EDO LORAN is today regarded as essential equipment in the chartrooms of modern, money-making ships all over the world.

Low in cost, compact in size, and requiring no special training to operate, Edo Loran is a practical investment for even the smallest operator. At the same time, the reliability of this equipment meets the most exacting specifications of operators of large passenger and cargo-carrying fleets.

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GE Sets Up Warehouse For Marine Power Parts

General Electric has established a complete warehouse of repair and renewal parts for their marine propulsion equipment at the company's New York Apparatus Service Shop, North Bergen, N.J.

The purpose of this operation is to provide better service to ship owners and operators, according to **William D. Lee,** Manager of Marketing for the Service Shops Department.

The parts in stock range from complete turbine rotors and generator coils, down to such normally wearable items as bearings, valve seats, and packings.

Mr. **Lee** pointed out that since the Service Shops specialize in marine repair work, its experts are on the spot to back up the warehouse service. Many of the company's ship propulsion units are still in operation after 20 or 30 years of service. He added, that if the required part is out of stock, the Service Shop marine experts may alter a similar part or rebuild the old one to get the unit back in service.

When necessary shipment by air freight can be effected to any point in the country 24 hours after receipt of the order.

St. Louis Ship To Build du Pont Chemical Barge

St. Louis Shipbuilding & Steel Company will build a 230-foot by 42 foot by 12 foot sulphuric acid tank barge for E. I. du Pont de Nemours & Company, Inc., Wilmington, Del.

12 Page Brochure Published By Dravo

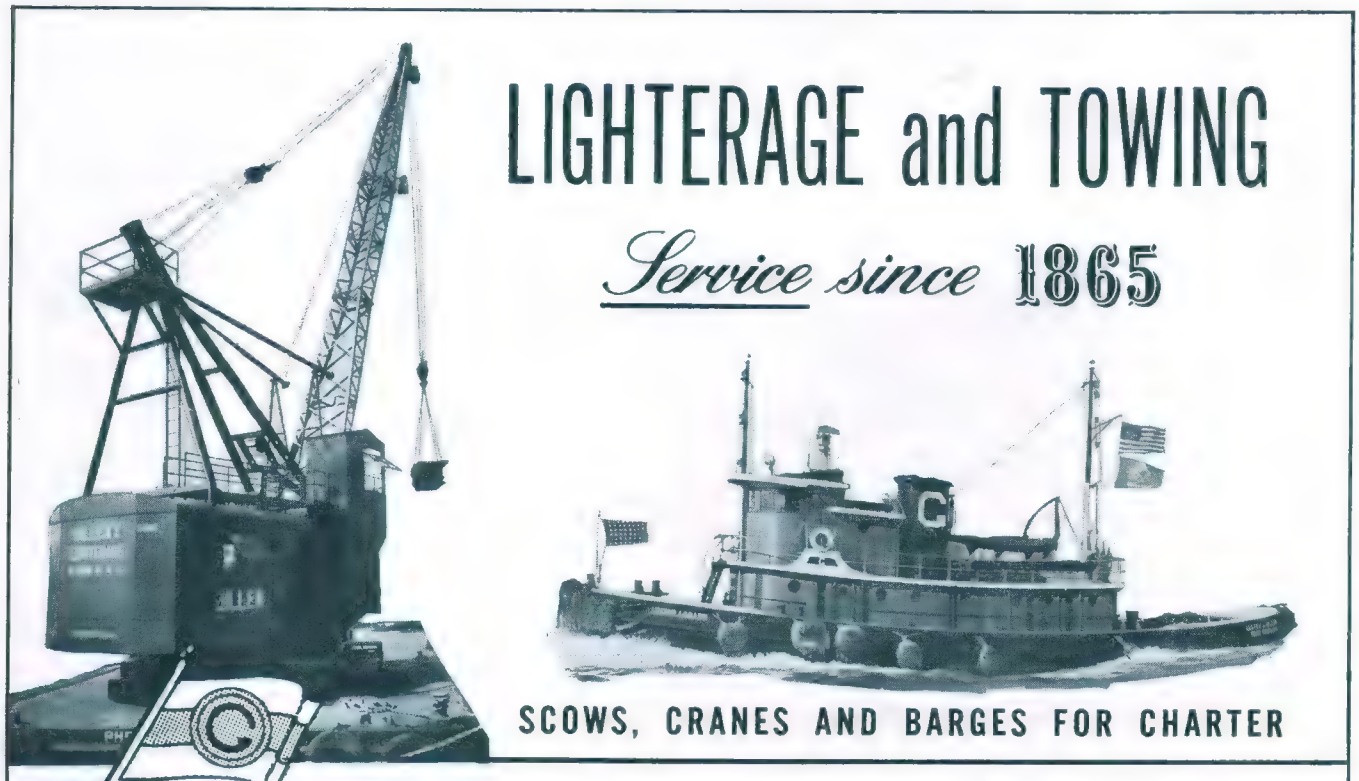
Announcement has been made of the recent publication of a 12-page brochure by the Dravo Corporation, illustrating many of the diversified projects the Pittsburgh, Pa., company has handled for U.S. Government departments, and giving an outline of its facilities for products and services in the fields of construction, shipbuilding, and metal fabrication.

The publication, entitled "Products and Services for United States Government Departments," stresses Dravo's experience in performing government contracts and subcontracts, an experience extending over more than half a century.

Dravo has constructed many vessels for peacetime military and maritime, river, harbor and coastwise service, including towboats, tugs, floating cranes, and special purpose barges. Under direction of the Atomic Energy Commission, the company fabricated all piping and installed the atomic reactor for the country's first commercial nuclear power plant, erected at Shippingport, Pa.

The Dravo booklet summarizes facilities at the company's main plant, shipyard and light metals plant at Neville Island, Pa.; shipyard at Wilmington, Del.; pipe fabricating plant at Marietta, Ohio, and fleets of floating heavy construction equipment.

The brochure reviews the company's 10-year history, showing that more than $35,000,000 has been invested since 1950 in new plants and equipment.



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Only Elliot is Coast Guard approved; may be used aboard any vessel . . . yacht to ocean liner

Only Elliot has saved 181 lives from sinking ships . . . proof of operational dependability

Only Elliot is so fully automatic . . . inflates at the pull of a cord, or when a ship sinks

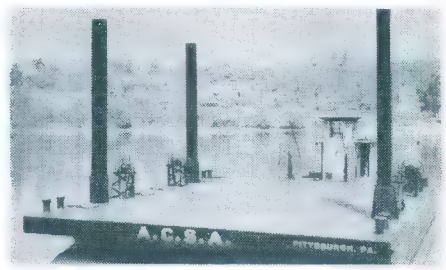
Only Elliot is so light and compact. A 6-man raft (7' x 9', 71 lbs.) packs 18" x 18" x 32"

Only Elliot has so many world-wide service stations . . . because Elliot made the first marine rafts

U.S. SALES AND SERVICE STATIONS:
Baltimore, Md.: The R. J. Taylor Company
Boston, Mass.: Westerbeke Fishing Gear Co.
Charleston, S.C.: Southeastern Supply Co.
Chicago, Ill.: James A. Black Hardware Co.
Gloucester, Mass.: Westerbeke Fishing Gear
New Orleans, La.: Neptune Supplies, Inc.
New York: New York Marine Distributing Co.
Norfolk, Va.: Paxton Co.
San Francisco, Calif.: C. J. Hendry Co.
San Pedro, Calif.: C. J. Hendry Co.
San Diego, Calif.: C. J. Hendry Co.
Seattle, Wash.: Nordby Supply Co.

U.S. SALES AGENT
C. J. HENDRY CO.
MAIN OFFICE
27 MAIN STREET
SAN FRANCISCO, CALIF.

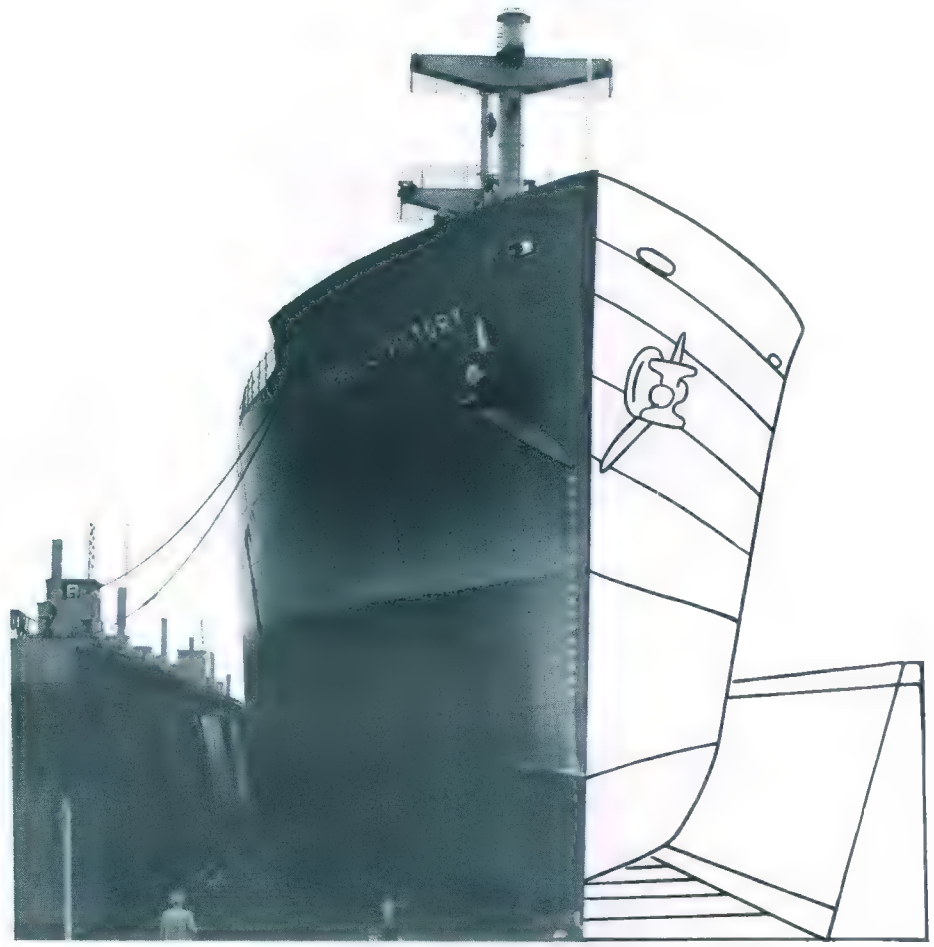
MADE BY
SURVIVAL EQUIPMENT CORP.
SAUSALITO, CALIF.



WORK FLOAT: Recently placed in operation for an unusual—if not unique—purpose was the 40-foot by 32-foot by five-foot-six-inch work float, shown above, built by Hillman Barge & Construction Company for Allegheny County Sanitary Authority, Pittsburgh. Among the functions of the Sanitary Authority is the maintenance and repair of sewer diversion structures and lines adjacent to or in the beds of Pittsburgh's three rivers. The specially designed work float permits easier access to the diversion structures and lines by service crews. Three 24-foot spuds are raised and lowered through spud wells for anchoring. The work float will handle mobile compressor equipment, pumps, etc., and a truck crane with a capacity of 35 tons.

At Brewer...

BETTER REPAIRS ARE ONLY HALF THE PICTURE



LOWER COSTS AND FASTER TURNAROUND THROUGH SUPERIOR ENGINEERING COMPLETE THE PICTURE

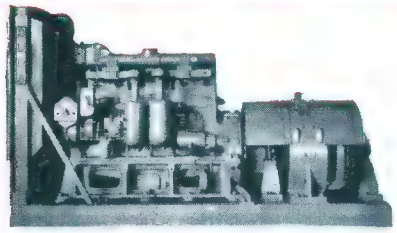
BREWER

DRY DOCK COMPANY

MARINERS HARBOR, STATEN ISLAND 3, N. Y. • YUkon 1-3500

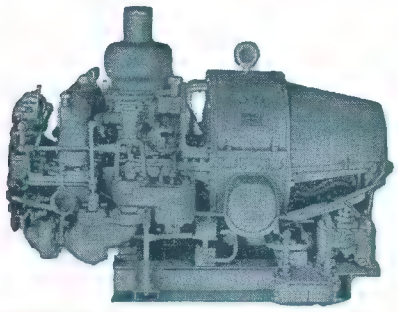
ESTABLISHED 1899

GENERATOR SETS



1 **125 KW 120 VOLT D.C. BUDA DIESEL GENERATOR SET**

GENERATOR: Crocker-Wheeler No. 892565—Model 101-H-DP—125 KW—120 Volts DC—1042 amps—type CCD—40° C rise—900 R.P.M. ENGINE: BUDA model 6-DCS-1879—6 cylinder 6⅜" x 8¾"—supercharged—900 RPM.—Cooling—self-contained radiator.

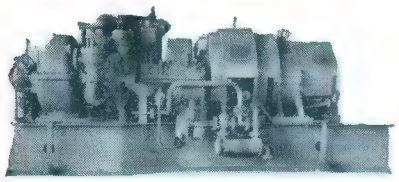


2 **UNUSED 60 KW GEARED TURBO GEN. SETS**

Geared turbo-generators—Westinghouse M-20-EH. TURBINES: 89.4 HP—7283 RPM—200 PSI. GENERATORS: 60 KW—120 volts DC—500 amps.—1800 RPM—type SK—frame 143. Units mounted on pre-fab sub-bases—33½" wide—42" long. Complete with carbon packing and gauges.

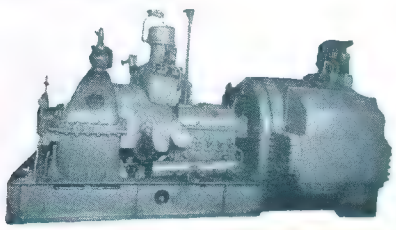
3 **OTHER GENERATOR SETS**

GM 8-268A — 200 KW — 440/3/60 — 1200 RPM, with switch.



4 **UNUSED 200 KW AC TURBINE GENERATOR**

TURBINE: Mfg by Westinghouse—steam press. 540# G—superheat 322° F—exhaust pressure 1# Abs.—9989 RPM. GENERATOR: Mfg by Westinghouse — self-ventilated — drip-proof —open—200 KW—250 KVA—450 volts—321 amps—3 phase 60 cycle—80% PF—1200 RPM—120 exc. volts—28 amps. DC. EXCITER: DC—Westinghouse—type SK—frame 143-6—40 KW—120 volts—333 amps—1200 RPM—2.95 shunt field amps—stab shunt—drip-proof.

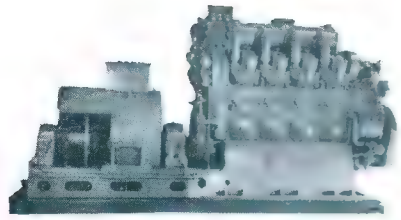


5 **SELF-UNLOADING AC TURBO GENERATOR**

1000 KW — 440/3/60 — mfg by G.E. — 4 units available. TURBINE: 8-stage type FSN — 7964 RPM — WP 375# — 175°F — superheat normal (1 lb PSIG ABS. at turbine exhaust flange) Steam flow lbs/hr 100% load, 12550. GEAR: helical, 7964 to 3600 RPM. GENERATOR: Type ATB 2-pole — 1000 KW — 0.8 PF — 450/3/60 — 1605 amps — direct connected 11 KW 120 VDC exciter. Total weight of complete unit 29,500 lbs. DIMENSIONS: Total length 16' 8⅛" — width overall 5' 7¾" — total height 7' 9" over steam inlet. Steam inlet 3½" — exhaust about 28"x36". Turbine can be operated condensing or non-condensing. IMPORTANT NOTE: For those having only 175 lbs sq in WP, G.E. advises that the unit will produce 900 KW with steam input conditions of 175 lbs/sq in and obtain a steam rate of 16.2 lbs. Typical serial Nos.: Turbine, 39697; Gear, 8874; Generator, 5358205.

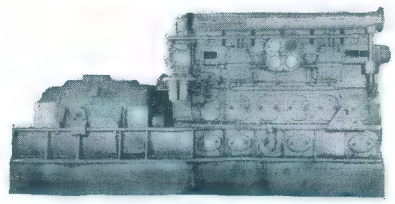
6 **20 KW LIBERTY SHIP GENERATORS**

Liberty Ship 20 KW reciprocating generators—120 volts D. C. Either Troy-Enberg or Whiton. Excellent condition.



7 **5 UNUSED 500 KW 120/240-VOLT DC DIESEL GENERATOR SETS**

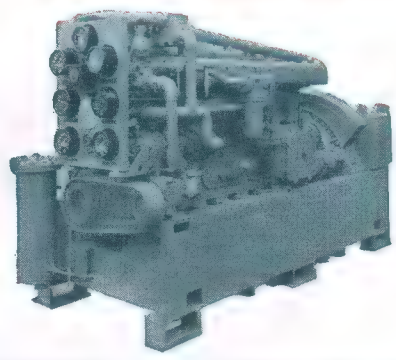
Excellent for marine contractors use on dredges, derricks, etc., or shipboard use for additional ships service power or refrigeration.
ENGINE: GM model 8-278—8 cylinder—720 RPM—715 HP—VEE type—8½ x 10½—air starting—2 cycle.
GENERATOR: Either Allis-Chalmers or Westinghouse. 500 KW—120/240 volts DC—2080 amps—720 RPM—drip-proof marine—class A insulation—compound wound—overload 125% 2 hours. Complete with very generous supply of spare parts; exhaust muffler; heat exchangers; balance coils; oil clarifiers; sylphon valves; circuit breakers & many other parts. 2 sets available with Westinghouse generators; 3 with Allis-Chalmers generators. Your inspection is invited.
WILL SELL ENGINES SEPARATELY FOR PROPULSION.



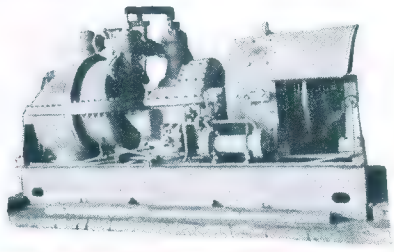
8 **2 UNUSED COOPER-BESSEMER 200 KW DIESEL GENERATOR SETS**

GENERATOR: 200 KW 240 volts DC—720 RPM—stab. shunt—833 amps. Mfg. by GE—drip-proof marine — type CDM1658Y — form AA.
ENGINE: Diesel type FS-6—8¾ x 11—300 HP—liquid cooled—air starting. Units complete with mufflers, rheostats, balance coils, oil clarifiers & spares. These heavy-duty slow-speed units are ideal for low maintenance jobs—excellent for dredges, ships service, etc.

9 **UNUSED SUPERIOR 100 KW 120/240 VOLT D.C. DIESEL GENERATOR SETS IN ORIGINAL FACTORY CRATES**



GBD-8 Superior 4 cycle engines—5½" bore—7" stroke—1200 RPM—displacement 1330.4 cu. inches—152 BHP—heat exchanger cooled. GENERATOR: Mfg. by Delco—100KW—120/240 volts DC 3-wire—1200 RPM—417 amps—stab. shunt wound—self-excited—complete with balance coil. SPECS: Fuel consumption 0.620 lbs. KW hr. Weight of diesel generator set 10,000 lbs. — 124" overall length — 65-11/16" high—42" wide—height necessary to pull piston 67⅝". Complete with muffler, flexible pipe, thermometers, etc. Can also furnish above with radiator.



10 **WESTINGHOUSE 300 KW VICTORY SHIP AUXILIARY TURBO-GENERATOR SETS—UNUSED**

TURBINE: Westinghouse — steam pressure 440 lbs. — 740° TT — exhaust pressure 28½" vacuum — 5930 RPM — instr. book 8360 — Gear RPM 1200 — Pinion RPM 5930. GENERATOR: 300 KW — 120/240 volts DC — 1250 amps — 1200 RPM — Frame CB 208.04 — stab shunt — rise 40° C — 125% load — 2 hrs — 55° C. Buy for replacement or spares.

KNOWN 'ROUND THE WORLD

THE BOSTO

313 E. BALTIMO

. Main Office: LExingto

11 **UNUSED WESTINGHOUSE 500 KW TURBO-GENERATOR SETS**

500 KW—625 KVA—80% PF—1200 RPM—3 phase—60 cycle—230-volt AC generators & 125-volt DC exciters. The generator may be connected for 450-volt operation. The turbine is designed and tested for operation at 425 PSI @ 725°TT. The unit will carry full load with steam at a pressure of 335 PSI @ 725°TT & 28" vacuum. Turbine speed 9018 RPM. The complete turbo-generator weighs 17,225 lbs. Steam rate 12.11 lbs/KW hr.—overall length 11' 4⅛"—overall width 5' 5 13/16". Units complete with voltage regulators. Built 1954. Excellent for new construction, self-unloaders, conversions, ships service, etc.

12 **200 KW G.E. TURBO GENERATOR SETS**

(4) Unused—200 KW—5-stage type DN—10012 RPM turbine—540 lbs.—675°—driving 200 KW 440/3/60 generator—.8 PF—1200 RPM—with direct connected exciters—with ample spares.

13 **CUMMINS DC & AC HEAT EXCHANGER COOLED DIESEL GENERATOR SETS**

(1) 60 KW—120 volts DC—500 amps—6 cyl engine—electric starting. Engine HED-#36068
(1) 60 KW—440/3/60 AC—6 cyl.—electric starting. Also has 20 KW DC on same shaft. Engine HSGAD #39322.

14 **G.M. DIESEL GENERATOR SETS**

(2) 30 KW—GM 3-71—120 volts DC—heat exchanger cooled.
60 KW—GM 6-71—120 volts DC—heat exchanger cooled.

15 **230 KW D.C. COOPER-BESSEMER DIESEL GENERATOR SETS**

Cooper-Bessemer engines type GN-6—400 HP — 6 cylinder — 10½" x 13½" — 500 RPM. G.E. generators—230 KW—230 volts—959 amps—type MPC-6. Form AL—marine type—ball-bearing drip-proof. Complete with switch gear. These units are very modern—built 1943—have had very little use and are in practically new condition.

DIESEL ENGINES

16 **(4) GM 8-268A 500 HP DIESEL ENGINES**

500 HP—8 cyl.—2 cycle—1200 RPM diesel propulsion engines—complete with 2.538:1 Snow-Nabstedt reduction gears. 500 RPM propeller shaft speed. Can furnish shafts, propellers, coolers, air compressors and pumps for this rig. Pilot house controls, propellers & shafts.

17 **(2) 1050 H.P. 300 RPM FAIRBANKS-MORSE 6 CYL. DIESEL ENGINES**

Heavy-duty Fairbanks-Morse direct reversible diesels, model 37E-16—16 x 20 1050 HP at 300 RPM. In excellent condition—still aboard vessel. Complete with heat exchanger attached and detachable pumps. Complete installation. Can be seen now aboard S.S. Culpeper.

WINCHES AND WINDLASSES

18 **2 EXCELLENT LSM STERN ANCR. WINCHES**

2 excellent LSM stern anchor winches with cone-drive speed reducer and 60 HP slip ring constant torque TEFC 3-phase, 60-cycle, 440-volt, AC motor and reversing drum magnetic controllers.

ON METALS CO.

ORE ST. • BALTIMORE 2, MD.

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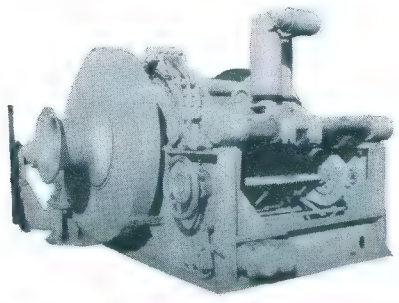
19 2 LARGE CAPACITY A. C. MOORING OR TOWING WINCHES

Wire capacity—3000' of ⅛" wire rope—nominal pull 20,000 lbs.—maximum 90,000 lbs.—average rope speed 50 F.P.M.—with cable guide—for windup and unwinding operations—drum handles more than 6 wraps of cable. MOTOR: Crocker-Wheeler 40 HP — 440/3/60 — 860 RPM—wound rotor—continuous—fan cooled—salt and moisture resistant—frame ARSFC-M-505—with all controls. DIMENSIONS: 8' 8" overall width—8' 2" deep.

UNUSED STEAM WINDLASS FOR 2¾" CHAIN

20 Will handle 2 20,000 lb. anchors & 35 fathoms of chain at 30 F.P.M. Bore & stroke 12" x 12"—7' 10½" center to center wildcats. Units excellent for T-2 Tankers, Jumbo & Super Jumbo.



21 NEW LST STERN ANCHOR WINCHES

100,000 lb. line pull—suitable for use with 50 HP 230-volt DC motors—or suitable for use with 6-71 diesel engines and torque converters. Suitable as towing winches on tug boats, mooring winches on barges, dredges and general marine contractors floating equipment, haul-out ways.

MISCELLANEOUS

UNUSED MARINE M.G. SETS

22 (2) New MG sets—AC to DC—4 bearing ball bearing — marine type — drip-proof — with all controls—AC & DC MOTORS: 125 HP—440/3/60—frame 546—40° rise. GENERATORS: 75 KW — 120 volts DC — 625 amps — 1200 RPM—mfg. by GE—form AA—stab shunt—type CDM—124-12. Complete with AC motor control panel G.E. CR-5130-B-20H—max 200 HP, generator switchboard — DC. Deadfront with circuit breaker, voltmeter, ammeter, field rheostat & 5 circuits of distribution.

NEW G.E. A.C. MOTORS FOR HYDRAULIC PUMPS OR HYDRAULICALLY DRIVEN DECK MACHINERY OR CRANES

23 New, as removed from unfinished naval vessel Hawaii. All are A.C.—440/3/60
(2) 10 HP continuous—40 HP intermittent ½ hour—640/820 RPM—high slip, high torque, induction type KR.
(1) 10 HP continuous—40 HP intermittent ½ hour—1040/520 RPM.
(ABOVE 2 MOTORS HAVE MAGNETIC BRAKE)
15 HP continuous—60 HP intermittent ½ hour 1770 RPM—type KF
20 HP continuous—1770 RPM—type KF
(1) type M—40 HP continuous—wound rotor—635 RPM
(2) 18 ¾ HP continuous—75 HP intermittent ½ hour—1775 RPM

FLUSH CLEAN SEWAGE EJECTOR PUMPS

24 Mfg by Chicago Pump Co.—Louis Allis motor-type OX—class D—form A—code C—7½ HP—220/440/3/60—1750 RPM—19/9.8 amps—40°C rise. Pump: vertical 150 GPM—30' head — 4 x 4 — complete with all valves and necessary fittings.

NEW SUBMERSIBLE PUMPS

25 Manufactured by Sawyer. For 115-volt DC operation.
Same—mfg. by Peerless—for 230-volt DC operation.

WORTHINGTON ROTARY GEAR PUMPS

26 4 - GRVS—250 GPM—47 # hd.—650 RPM—15 HP.
5 - GRVS—225 GPM—55 # hd.—308 RPM 15 HP.
2 - GRVS—12 GPM—400 # hd.—460 RPM—7½ HP.

MAIN CIRCULATING VERTICAL PUMPS

ALL 230 VOLTS DC
VICTORY SHIP & C-2

27 18 LAS—8435 GPM—40/60 HP.
2½UZ-1—120 GPM—208 ft. hd.—10/15 HP.
8LS-1—1121 GPM—24.6 ft. hd.—5/10 HP.
1½UZ-3—20 GPM—208 ft. hd.—5 HP.
3-UBS-1—400 GPM—208 ft. hd.—30/50 HP.
5-LS-1—415 GPM—78.5 ft. hd.—15/20 HP.

(10) SPERRY #2 STEERING GEAR

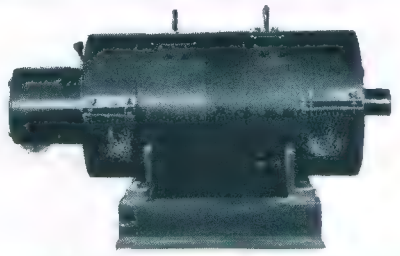
28 Sperry #2 steering gears—with 5 HP 115-volt DC controls and automatic pilot.

1800 HP REDUCTION GEAR FOR 16-278A AND F.M. OP DIESELS

29 (10) reduction gears—1800 HP—mfg by Farrell-Birmingham—2.409 to 1—with American Blower hydraulic couplings—one pinion—single reduction—double helical type.

NEW G.E. MAIN PROPULSION ROTOR

30 This is for Mission Class T2-SE-A2 or P2-SE2-R1 vessels. Unused and in excellent condition.



NEW 4 KVA MOTOR GENERATOR SETS

31 MOTOR: Hertner Electric Co.—5.5 HP—115 VDC—45 amps—1800 RPM. GENERATOR: 2½ KW—4KVA—115 volts—single phase—35 amps—1800 RPM. (This is a 2-bearing ball-bearing unit, with speed regulator.)

NEW 2.5 KW MOTOR GENERATOR SETS

32 Mfg by Hertner—4-bearing ball-bearing. Input: 5 HP—230 volts DC—1800 RPM—23 amps. Output: 2.5 KW—115 volts single phase AC.

DIESEL STARTING AIR COMPRESSOR

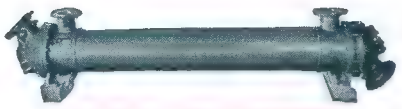
33 233 CFM @ 600 lbs. @ 850 RPM—Gardner-Denver model WRY—5½ x 2 ⅞ x 5—driven by Cat. diesel D-7700—125 HP.—6 cyl.—5¼" x 8" bore & stroke.

AUXILIARY HEATING BOILER 5000#/HR. @ 100 LBS.

34 Mfg. by Foster-Wheeler—type D—two sections. 150# Design pressure—W.P. 100#—evaporation 5000#/hr.—feed water temp. 160°F. Dimensions of the 2 D type sections together: Approx 11' 5" high—14' wide—depth over drums 8'. Built to ASME. Suitable for diesel vessels and other auxiliary heating services.

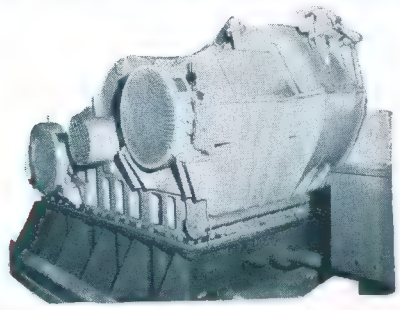
SOLO SHELL 12000 GAL. EVAPORATOR

35 12,000 gal. double effect in a single shell Solo Shell unit. With all pumps & accessories. 230 volts DC.



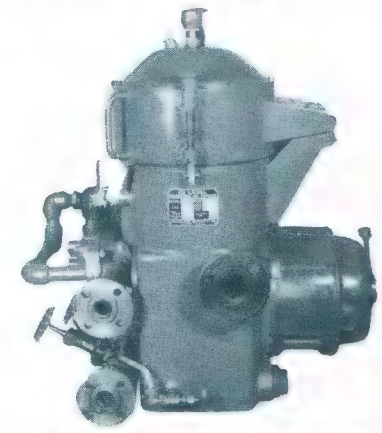
36 UNUSED ROSS COOLERS

Model 860 — all copper shell — Cupro-nickel tubes. 8" diameter shell—60" between tube sheets. Total cooling surface—84 square feet.



37 NEW 1.81:1 3200 HP REDUCTION GEAR

Farrel-Birmingham reduction gear — 3200 HP — twin input — capable of handling (2) 1600 HP engines at 720 RPM input with a single output of 3200 HP at 402 RPM. Unit equipped with hydraulic coupling mfg by American Blower — size K-117R — Fawick clutch and remote controls. Gear 20° horizontally offset — 2 pinion — single reduction. Suitable for small cargo vessels, dredge pump drive, etc.



38 CENTRIFUGAL OIL PURIFIERS

(5) New DeLaval Unimatic Purifiers—Model 55N-13—1½ HP—440/3/60.
(1) New DeLaval Model 65N-13—1½ HP—440/3/60.
(2) Sharples—100 GPH—model 13NV2P—stainless steel bowl—17,000 RPM max bowl speed. Motor 1½ HP—230 volts DC—3450 RPM. NEW—UNUSED.
(5) Sharples—225 GPH—17,000 RPM bowl speed—stainless steel bowl—Motor: 1½ HP 440/3/60—3450 RPM—complete with magnetic controller. NEW—UNUSED.

39 5" FORGED STEEL SHAFTING—UNUSED

Fully machined—17½' lengths and 14½' lengths.

40

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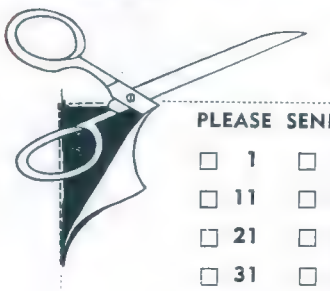
"CROW'S NEST" for bargains and hard-to-get items

WE HAVE ALL T-2 TANKER EQUIPMENT

41 SPECIAL—T-2 WINDLASSES
HESSE ENSTED—12 x 14—2 5/16 CHAIN



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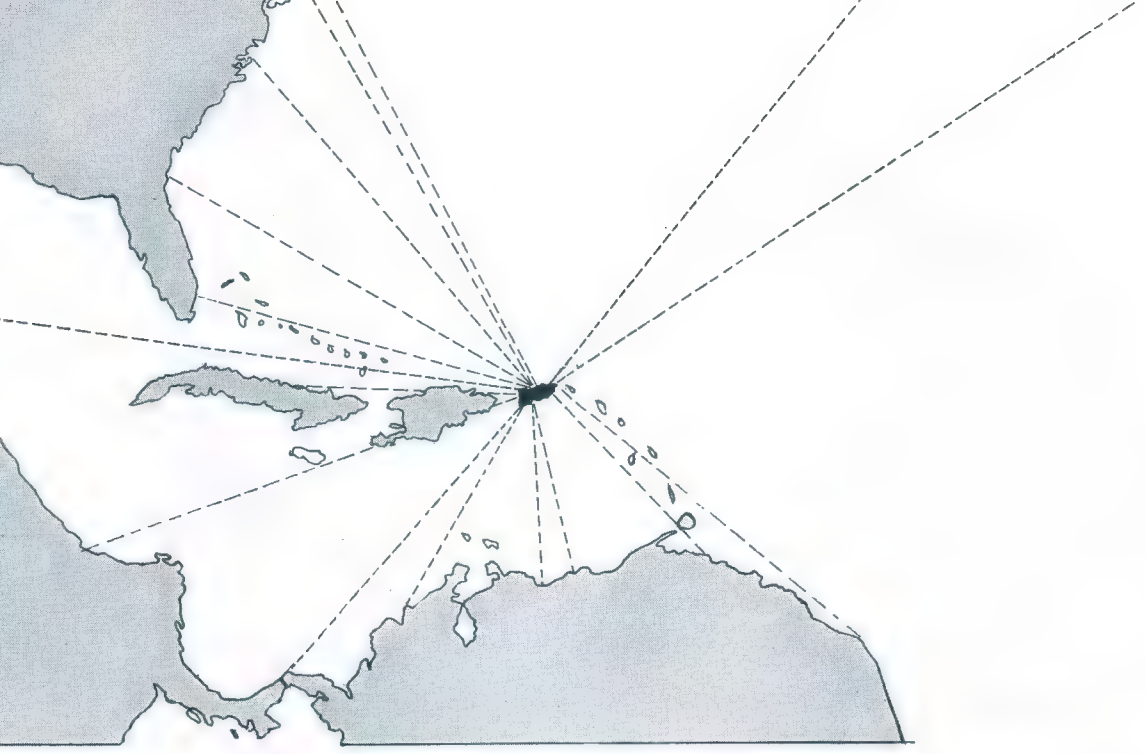
☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐ 15 ☐ 16 ☐ 17 ☐ 18 ☐ 19 ☐ 20
☐ 21 ☐ 22 ☐ 23 ☐ 24 ☐ 25 ☐ 26 ☐ 27 ☐ 28 ☐ 29 ☐ 30
☐ 31 ☐ 32 ☐ 33 ☐ 34 ☐ 35 ☐ 36 ☐ 37 ☐ 38 ☐ 39 ☐ 40
☐ 41

NAME ..... COMPANY .....

ADDRESS ..... POSITION ..... PHONE .....

CITY ..... ZONE ..... STATE .....



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subsidiary of **THE BERWIND-WHITE COAL MINING COMPANY**

Properly Applied Tank Coatings Pay Off

Recently Humble Oil and Refining Company sponsored a four-day conference on the use of RUST-BAN 190 tank coating (MARITIME REPORTER, May 1, 1960). The company realizes that poorly applied coatings are extremely costly to the tanker operator. At this, and a previous conference, Humble engineers have explained the proper methods of application of their coating to shipyard and ship operating personnel. This recent meeting, held in Houston, Tex., was attended by shipyard personnel and tanker operators from the U.S., England, West Germany, Italy and other maritime countries.

The article appearing on these pages gives the highlights of why tank coatings are growing in popularity, the pitfalls associated with the application and how to overcome them. The full report of this conference can well be used as a textbook on coating applications. The Humble engineers used RUST-BAN 190 as the coating material since it is their product but the information given can be applied to all tank coatings and would form a primer on the subject.

THE PROBLEM

Corrosion of cargo tanks of tankers has proven to be an expensive problem. Corrosion wastage in tanks of vessels carrying refined products in particular, has resulted in:

1. Periodic replacement of the tank structure.
2. Difficulties in cleaning and gas-freeing tanks.
3. Increased pipeline, valve and pump repairs.
4. Degradation of product quality.
5. Initial cost and revenue loss due to oversize scantlings.

These have been realistically estimated to amount to as much as $150,000 and $250,000 per year per vessel for 16,000 DWT and 26,000 DWT size tankers respectively. The annual liability for cargo-tank corrosion in a large tanker can therefore amount to many hundreds of thousands of dollars.

In view of such high corrosion costs, remedial measures have been required to help maintain vessel operating expenses within reasonable limits. During the past seven or eight years many possible methods of controlling cargo tank corrosion have been investigated.

ONE POSSIBLE ANSWER

One of the most promising methods of controlling corrosion in tanker cargo compartments is the application of tank coatings to internal tank structures. The highly satisfactory service experience with tank coatings on the MSTS and Standard Oil Company of California vessels has encouraged other tankship operators to consider this corrosion control method. The continuing increase of the total number of coated tanks on U.S.-flag tankers (i.e., 1953—only five tanks; total through 1959—701 tanks) emphasizes the trend toward protective coatings. This significant increase in the total number of coated cargo compartments has principally resulted from:

1. Increased acceptance of tank coatings as a practical method.
2. Development of specialized shipyard procedures for application.
3. The continuing development of improved coating materials.

A wide variety of coating materials are available today for use in tanker cargo compartments. Many types of vinyls, epoxies, inorganic materials, etc., are now being promoted for tanker service. Only a few particular coatings from the many now available, however, have actually been in service for any appreciable time. The SARAN VINYLIDENE, the DIMETCOTE NO. 3 and Humble RUST-BAN 190 inorganic-zinc-pigmented coatings are probably the three materials most widely used in cargo tanks to date. However, as laboratory and shipboard testing programs continue, it is possible that a better coating material will be found.

Experience with coating systems on many vessels has confirmed that protective coatings provide:

1. Maximum protection (essentially 100 percent) against corrosion.
2. Protection against corrosion under all services.
3. Substantial reductions in gas-freeing and tank-cleaning requirements.
4. Effective protection with minimum maintenance.
5. Effective protection without crew participation.
6. Assurance of maintaining maximum cargo quality.
7. Means of eliminating corrosion allowance in new tankers.

THE COST

High initial cost and additional repair time required for large-scale coating application are probably the most serious disadvantage of using coatings for protection of cargo tanks today. However, if application cost and time do not exceed current levels—protective coatings may often be the most economical and practical method of corrosion control when:

1. Relatively long-term (10-20 years) protection periods are required.
2. Immediate savings are possible through minimizing structural repairs.
3. Other methods of corrosion control are not suitable.

THE SAVINGS

Savings available through the use of protective coating systems have proven most attractive. For example, experience in operating fully coated clean-service tankers has shown that a reduction in both—

Repair Costs

a. Eliminates major reconditioning repairs.

b. Reduces valve, pipeline and pump repairs.

c. Reduces over-all ships' repair time.

Operating Costs

a. Reduces ships' labor requirements.

b. Reduces degradation of products.

c. Permits faster rotation of vessel between black and clean oils.

THE INSTALLATION PROBLEM

The objective on any job is production or speed of application, quality of workmanship and economy.

To reach these objectives requires a combination of proper equipment, trained operators, rigid controls, competent supervision and realistic inspection.

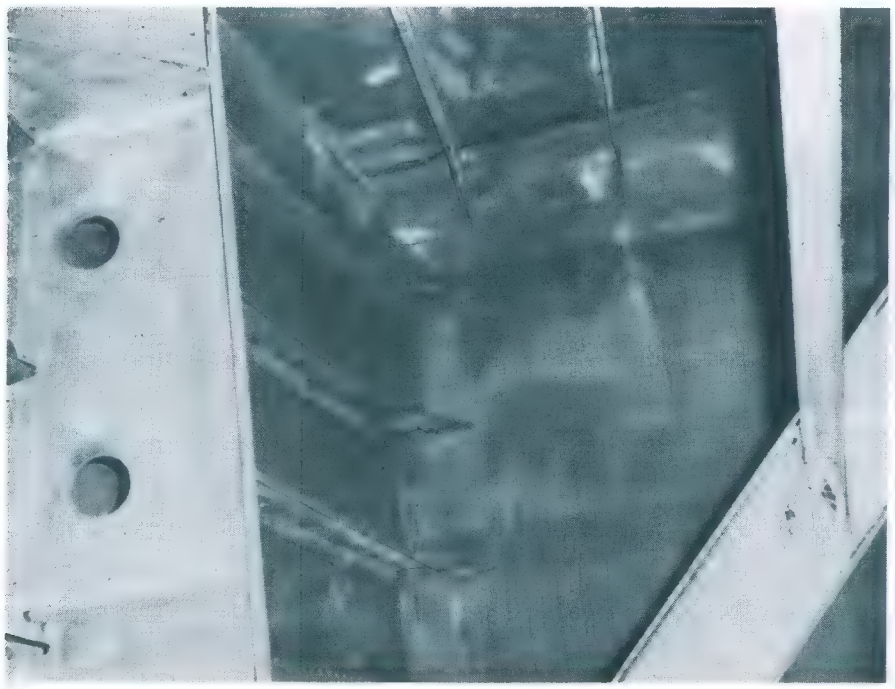
The expanding use of coatings for protection of tanker cargo compartments has emphasized the necessity of providing better trained personnel for supervision and inspection of shipyard coating application.

Every supervisor should know all the rules of proper blasting and spray techniques and be able to teach it. This man should be trained

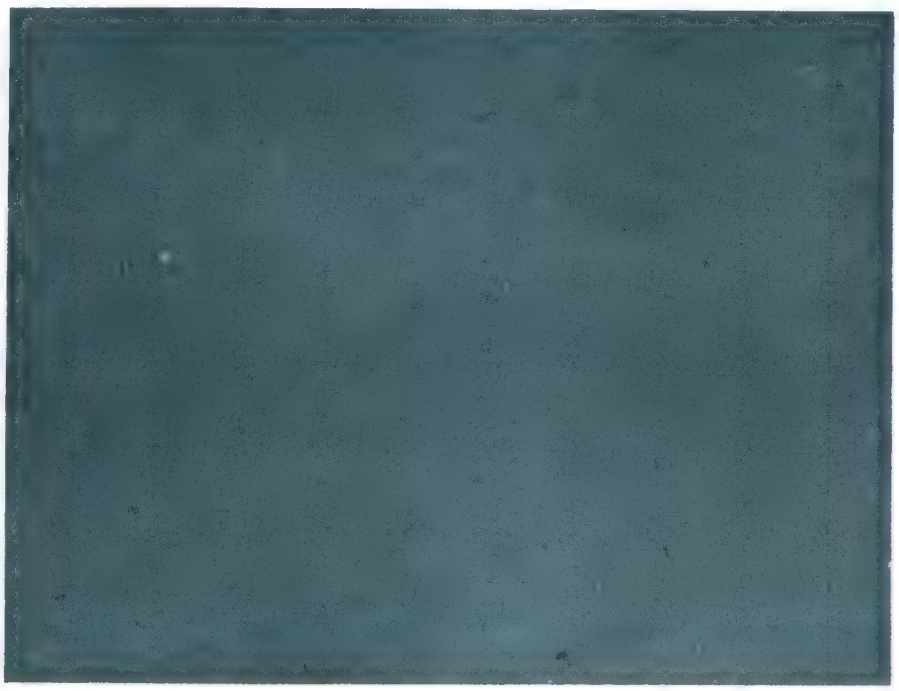
(Continued on page 35)

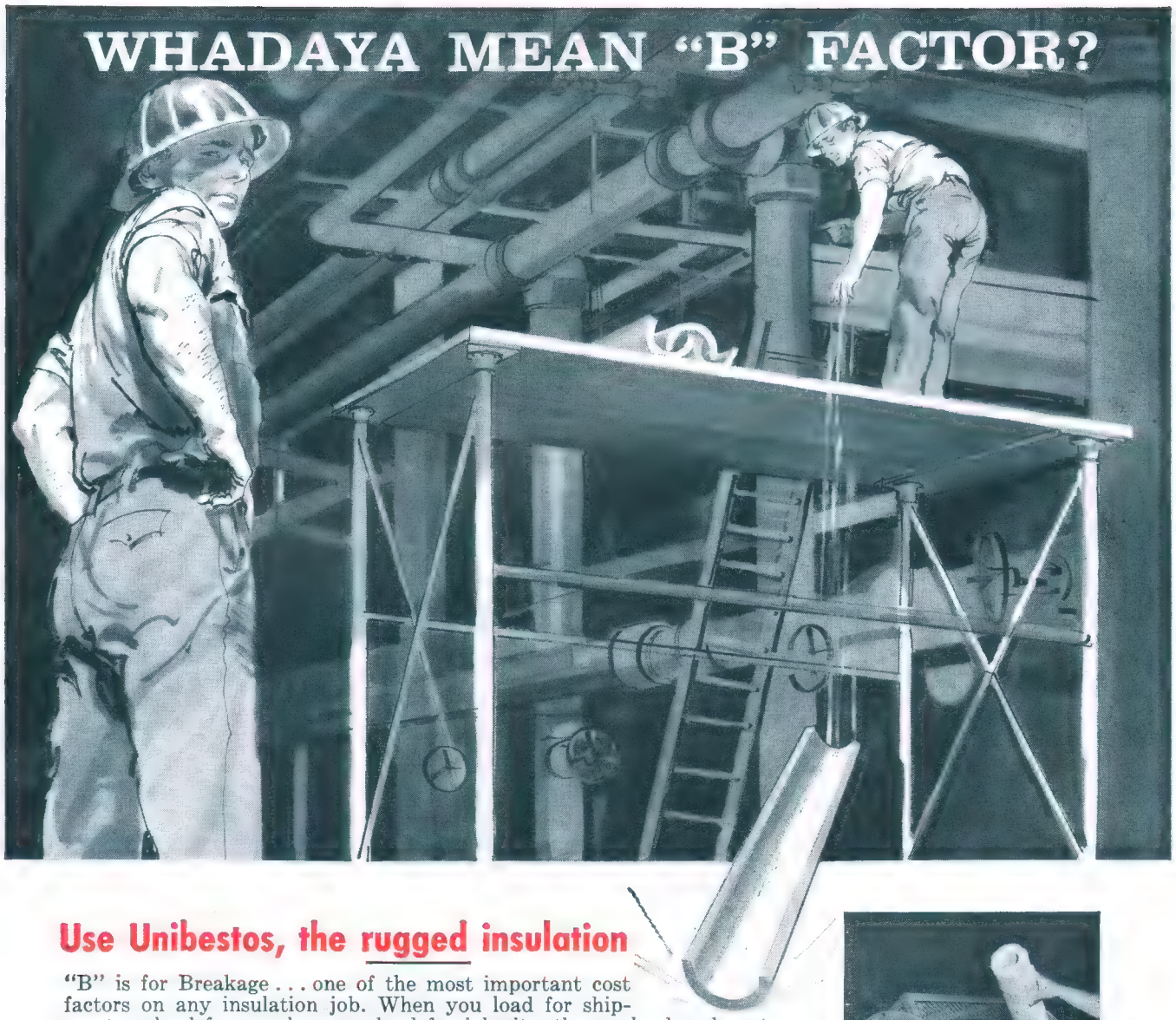
This Is How Properly Applied Coatings Should Look

Typical Coated Cargo Compartment



Rust-Ban 190 Properly Applied





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"B" is for Breakage . . . one of the most important cost factors on any insulation job. When you load for shipment, unload for warehouse, reload for job site, then unload and spot for installation, it takes a *rugged* insulation to get there with *no breakage*. And that's just what Unibestos will do for you. And how "B" factor saves cleanup time, too. No wonder 15% to 20% savings is not unusual.

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Tumbling apparatus illustrated above was used to simulate jars incurred in LCL shipments. After 29.2 minutes (204 revolutions) Magnesia insulation is completely broken down. Unibestos remains O.K. for installation because of its exclusive long-fibered *Amosite* asbestos.

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DEPT. 232, Bloomington, Illinois

"The use of protective coatings in tanker cargo compartments not only provides maximum protection against corrosion, but the smooth scale-free internal tank surface permits substantial reduction in tank cleaning requirements, increases flexibility in scheduling cargoes and lessens danger of product contamination."

(Continued from page 33)

first so he can maintain the rigid controls.

The function of the inspector is to assure that the preparation of surfaces and application of coating is in accordance with the owner's specification. By carefully exercising his judgment in examining the blasted and coated surfaces, the inspector can maintain the quality of workmanship necessary to provide the maximum service life of the coating.

The assignment of an increasing number of inspectors to the coating field—required to handle the growing volume of tank coating applications—has necessarily involved the use of some inexperienced personnel. Inspection practices have frequently resulted in difficulties affecting not only quality but also the cost and progress of the coating application. For example, some difficulties commonly encountered when using inexperienced personnel as coating inspectors include:

1. Excessive time being taken to carry out inspection and making decisions.
2. Tendency to be over-strict by striving for a 100 percent perfect job.
3. Creation of inconsistencies in level of inspection.
4. Failure to consider all circumstances involved when rejecting or accepting a surface.
5. Inadequate inspection during application of coating film.
6. Ability of shipyard foremen to influence inspector's decision.

Education, training and experience combined provide the tank coating inspector with the optimum background required for him to carry out his inspection activities in a manner most suitable to both shipyard and shipowner.

The degree of surface preparation can be directly correlated to the service life of the coating. Foreign matter such as oxides, oils and old paint film destroys the adhesion of the coating, since it prevents the coating from reacting with the metal. It has been firmly established that the coating must be applied over a white-metal sandblasted surface in order to achieve the maximum service life.

ADVANTAGES AND LIMITATIONS

The advantages of RUST-BAN 190 are:

1. Errors in application are corrected immediately instead of months later.
2. Production of a hard abrasion resistant film.
3. The film is insoluble in the general range of petroleum products, oils and alcohols.
4. Production of an insoluble film offers excellent corrosion resistance.
5. The film is physically and chemically bonded to the metal surface.

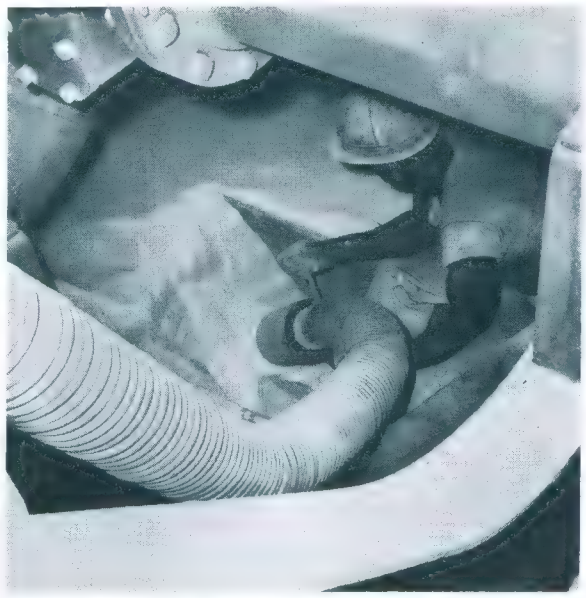
The limitations of this coating are:

1. The film is water soluble until cured.
2. Tolerance for application of film is closely restricted.
3. Will not withstand acids and alkali.
4. Requires excellent surface preparation.

Esso Research and Engineering Company has been interested for many years in the use of protective coatings in tanker cargo compartments for corrosion abatement. Although coatings, including the inorganic zinc-rich materials, became widely used only recently, the laboratory evaluations stretch back many years. These cargo compartment programs represent only one phase of Esso's over-all interest in the inorganic coatings. Results of other evaluations have shown their protective properties to be excellent in such varied uses as linings for storage tanks, heat resistant coatings for stacks and furnaces, hull coatings and for use in petrochemical equipment.

The Application Process for A Satisfactory Installation

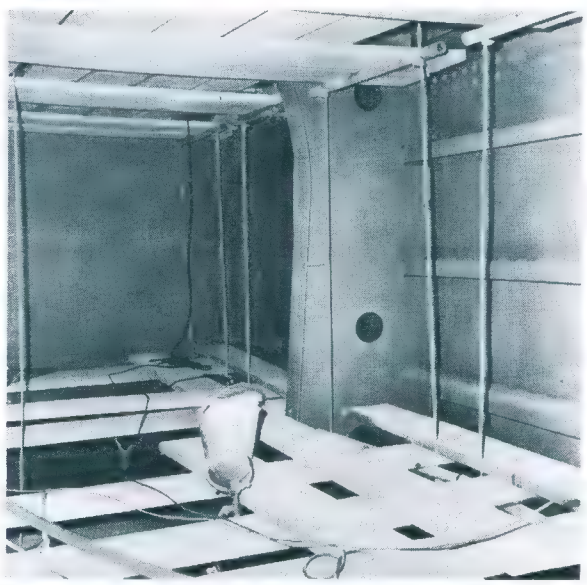
Tank sandblaster equipped with fresh-air-supplied helmet, high-powered spot light and venturi-type blasting nozzle.



Suction nozzle of Vacuveyor equipment is fed into sand pile for vacuum removal of sand. Position of nozzle is important.

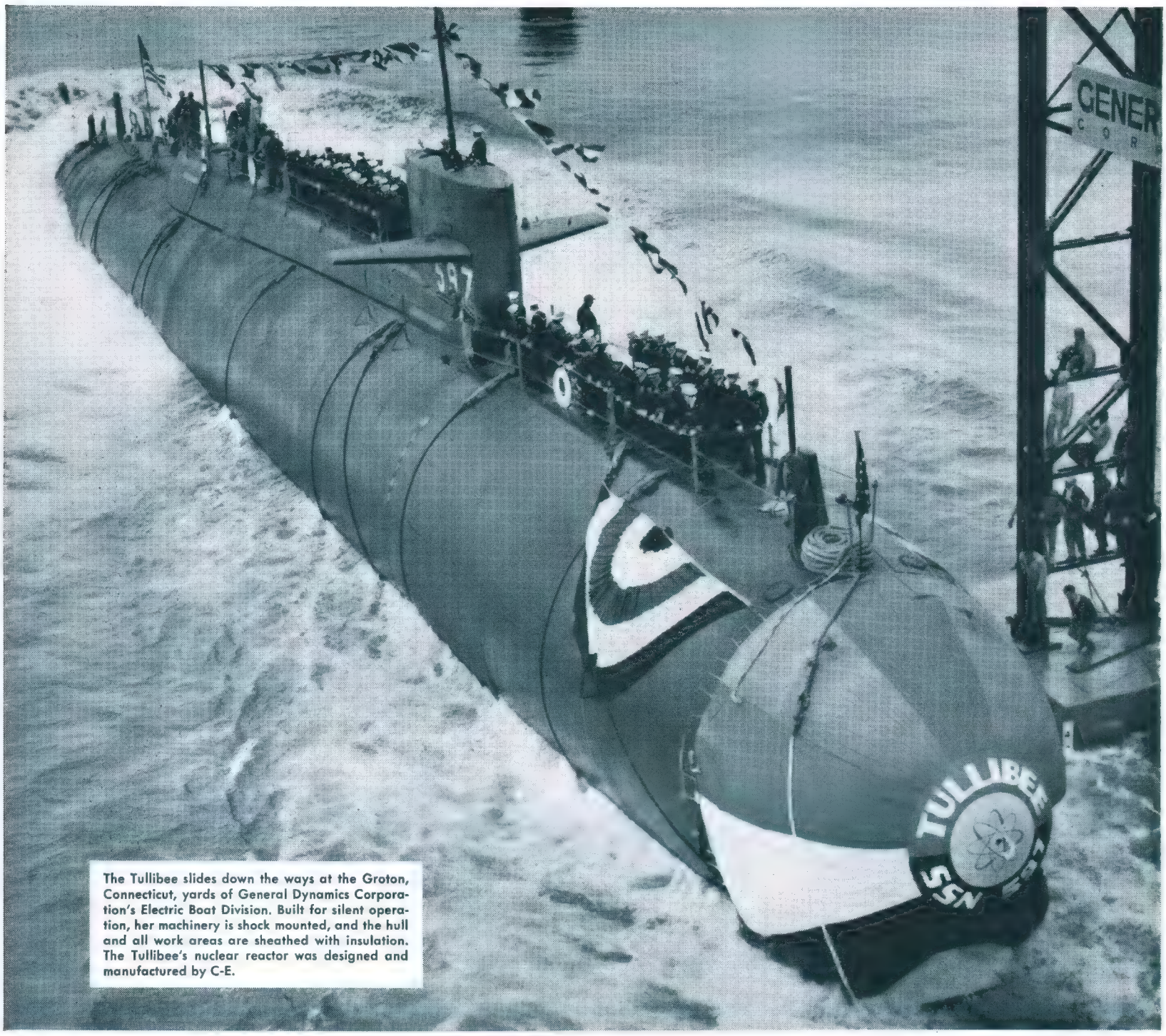
Spray painters, experienced in tank coating application, can provide "quality painting" which assures low material costs.

Inspector's seal-beamed spot light fitted with suitable handle and long cord assists in examining blasted and painted surfaces.



Suspended pipe/cable-ladder-type scaffolding has been found best for tank coating applications and has been adopted by shipyards.

Typical arrangement of deck equipment includes air compressors, receiver tanks and ventilating duct discharge line.



The Tullibee slides down the ways at the Groton, Connecticut, yards of General Dynamics Corporation's Electric Boat Division. Built for silent operation, her machinery is shock mounted, and the hull and all work areas are sheathed with insulation. The Tullibee's nuclear reactor was designed and manufactured by C-E.

THIS SUPER-SILENT HUNTER-KILLER HAS KEEN EARS

The Tullibee, the first nuclear powered "hunter-killer" submarine, launched on April 27th, is designed to find and destroy enemy submarines beneath the sea's surface. It is the first submarine in the nuclear Navy to have a turbo-electric drive. It utilizes the most advanced hull design, is packed with sonar equipment and represents a major advancement in the Navy's anti-submarine warfare development program.

Silence is vital to Tullibee's mission and, as a result, she's one of the quietest underseas craft ever built. She is also unique in that her torpedo tubes are located amidships rather than in the bow. This allows Tullibee's nose to be loaded with an unprecedented number of sonar tracking transducers and hydrophones.

Combustion Engineering designed the nuclear power plant of the Tullibee and manufactured most of its major components, including the core with its fuel element assemblies. A prototype installation, including a portion of a submarine hull, has been in full power operation for some time at the C-E Naval Reactor Division in Windsor, Connecticut. This prototype, also designed and built by C-E, is the only installation of its kind at a privately owned site. It is now used for test purposes and training Navy crews.

The Tullibee adds one more name to the long list of notable power installations designed and built by C-E . . . installations that are representative of the most advanced practice in steam generation on land or sea.

* * *

C-E also designed and built the reactor vessels and steam generators for the USS Triton, world's largest submarine, which recently encircled the globe, submerged, in 83 days.

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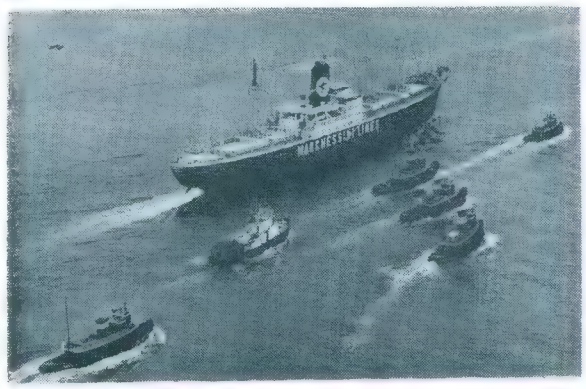
New York Harbor Welcomes Marchessini Lines Cargo Ship



A fleet of McAllister Brothers tugs is shown escorting the SS Eurymachus to her berth at the Sea-Land Terminal in Brooklyn, New York.

A formal welcome was recently extended to the SS Eurymachus on the occasion of her maiden voyage to the Port of New York.

Built in 1960 at A. G. "Weser" Werk Seebeck, Bremerhaven, Germany, and flying the Greek flag, this turbine cargo vessel is the first of four presently under construction in Germany. Overall length is 531 feet and she is capable of a service speed of 18 knots. Deadweight on the vessel is given at 13,105 tons.

The Eurymachus and the other three vessels now under construction are marked for operation in the Marchessini Lines round-the-world service.

Coast Guard Asks Bids On Towboats And Barges

The United States Coast Guard is soliciting bids for four combinations consisting of one 70-foot steel barge and one steel towboat. July 25 is the date set for proposals.

The first combination unit is to be delivered within 240 calendar days after receipt of "notice to proceed" with delivery of succeeding units at 30-day intervals thereafter.

Tentative deposit of $25 in the form of a certified check, cashier's check or money order made payable to United States Coast Guard is required for bid sets, including plans and specifications.

The deliveries are to be made afloat at the USCG Depot, Paris, Tenn.

J. Frederic Requardt, Jr. Joins Brewer Dry Dock

The Board of Directors of Brewer Dry Dock Company, Mariners Harbor, Staten Island, New York, announced that **J. Frederic Requardt, Jr.**, has joined the company's sales staff.

Mr. **Requardt,** who has been active in the marine field for many years, recently returned to this country from Nassau. He will specialize in the development of general marine and industrial work.

Grinding Crankshafts Without Dismantling Engine Described In Golten Booklet

A booklet has been published by Golten Marine Company, Inc., which describes how main journals and crank pins on any size crankshaft for every make of marine engine can be ground, honed, lapped, polished and completely reconditioned without dismantling the engine.

Copies of this booklet can be obtained by writing to The Diesel Center, Golten Marine Company, Inc., 160 Van Brunt Street, Brooklyn 31, N.Y.

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Barge Building Activities Continue At Various Yards

Equitable Equipment Company, New Orleans, La., will build two 225-foot by 34-foot by eight-foot dock barges for Texas Eastern Transmission Company.

Five 120-foot by 32-foot by seven-foot deck cargo barges will be built by Missouri Valley Steel, Inc., Leavenworth, Kans., under contract for Tirad Equipment Company.

Zigler Shipyard will build an oil barge for Fred B. Zigler, Jennings, La. This vessel is to measure 199 feet by 52 feet by 14 feet six inches.

A cargo barge measuring 200 feet by 40 feet by 14 feet six inches will be built by Albina Engine & Machine Works, Inc., Portland, Ore., for Oahu Railway & Land Company.

Increased Subsidy Approved By Senate

The Senate overcame opposition to a bill raising the ceiling on ship construction for two years. The roll-call vote was 60-26.

The bill aims at raising, for two years, the maximum Federal ship construction subsidy that may be paid to 55 per cent. It is now limited to 50 per cent of the domestic costs.

The Senate unanimously accepted an amendment, sponsored by Senator **John J. Williams** (R-Del.), to bar steamship companies from offering free or reduced transportation to Government employees and officials.

Senator **Warren G. Magnuson** (D-Wash), Chairman of the Senate Interstate and Foreign Commerce Committee, although supporting this amendment, gave warning to Senator **Williams** that, while his past efforts have succeeded in putting this same amendment on legislation in the Senate, it was never accepted by the House.

Senator **Frank J. Lausche** (D-Ohio), a Member of the Senate Interstate and Foreign Commerce Committee, staged the major fight. He not only opposed the bill (S-2584), but offered an amendment which would have allowed the Government, in cases where the construction subsidy exceeded the present 50 per cent ceiling, to pay half the excess up to the 55 per cent level. This would, in effect, have set a 52½ per cent ceiling. The amendment was defeated by a vote of 24-62.

The bill, now bearing House number HR 10644, must go back to the House for consideration of Senator **Williams'** amendment.

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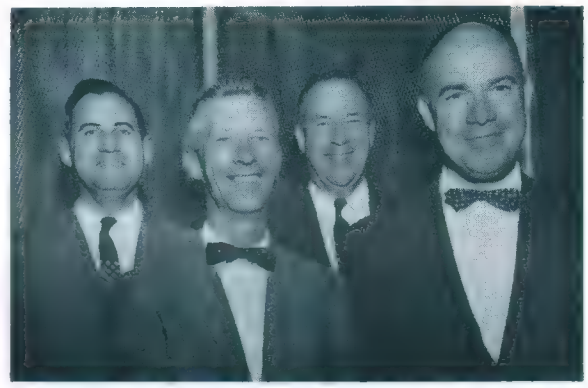
Southern California Section Hears Paper On Scale Lofting And Automatic Burning



Shown above, left to right: Commander **R. A. Rourke,** Chairman, Publicity Committee; **Norman L. Hines,** Speaker, Todd Shipyard; **Richard J. Hoard,** Vice-Chairman of the Section, and **Louis M. Dingler,** Chairman, Papers Committee.

The Southern California Section of the Society of Naval Architects and Marine Engineers held its May meeting, a technical session, at the Lafayette Hotel, Long Beach, Cal. A paper entitled "One Tenth Scale Lofting and Automatic Burning At Todd Shipyards" was presented by **Norman L. Hines,** Superintendent of Steel Construction at the Todd Shipyard Corporation, San Pedro, Cal. Mr. **Hines** has had extensive experience in steel fabrication for ship construction, having worked continuously in this field for the Todd organization for the past 19 years.

The paper presented at the meeting discussed the co-relationship between the automated plate burning machine (Shichau-Monopol) and the one-tenth scale lofting systems used by Todd Shipyard in the current construction of C-3 freighters. This system of hull fabrication has produced numerous cost saving phases. Some of these are: A more accurate lofting technique, elimination of the storage and handling problem with the inherent damages to full size templates, development of a very economical material control technique by the tenth scale loft which assigns work parts to raw stock in such a manner to permit use of maximum size plates purchased in a minimum number of sizes and with a minimum of scrap residue, accurate multiple plate burning requiring a minimum of fitting and welding in assembly. The tenth scale loft also develops the "Total Bill of Material" which summarizes the work flow information required in orderly hull erection schedules. The Shichau-Monopol automatic burning machine utilizes a photo-electric cell to trace glass negatives which are to one one-hundredth scale. It is capable of accurate bevelling and marking plates in addition to the multiple burning operations. In summary this is a very efficient system, especially in multiple ship construction.

U.S.S. PREBLE DLG 15 — Our second — and the Navy's second — guided missile frigate — delivered April 28, 1960 — nine months ahead of schedule.
BATH IRON WORKS, Shipbuilders & Engineers

Wegner Machinery Builds 4th C-P Propulsion System For New York Fireboats

Peder Wennberg, Manager of the marine division of Wegner Machinery Corporation of Long Island City, N.Y., has announced that the company is building a Wegner controllable-pitch propulsion system for the New York Fire Department's new fireboat, which is scheduled for completion this year.

This will be the fourth new fireboat which Wegner Machinery Corporation has equipped with C-P propulsion system—having already provided units which are now in service aboard the Archer, Sylvia Wilks and Robert Wagner.

H. Newton Whittelsey, Inc., naval architects and marine engineers of New York City, were design agents on all four vessels.

The Wegner C-P propulsion system consists of: controllable-pitch propellers, tail shaft, coupling, servo-motor, hydraulic servo system and propulsion controls. The fourth new fireboat will be equipped with two 66-inch diameter, three-bladed stainless steel propellers of 500-shp at 348-rpm. The vessel, now under construction at the John H. Mathis Shipyard, Camden, N.J., will have an overall length of 105 feet.

In addition to supplying the C-P propulsion system aboard the new fireboat, Wegner Machinery Corporation also provided the hydraulic steering gear and the Nathan air-chime whistles.

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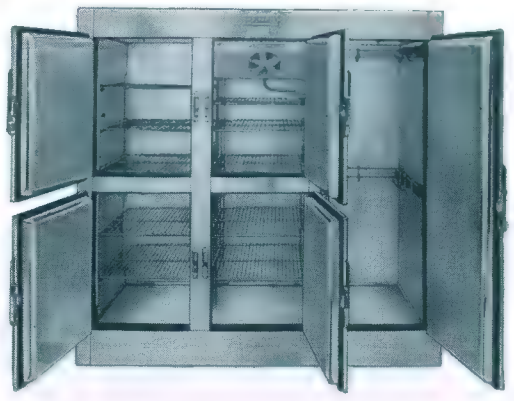

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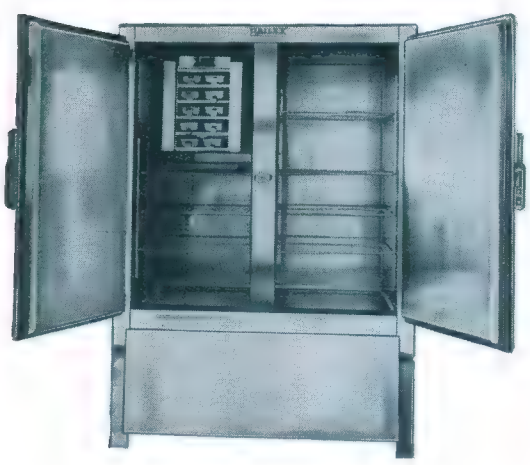

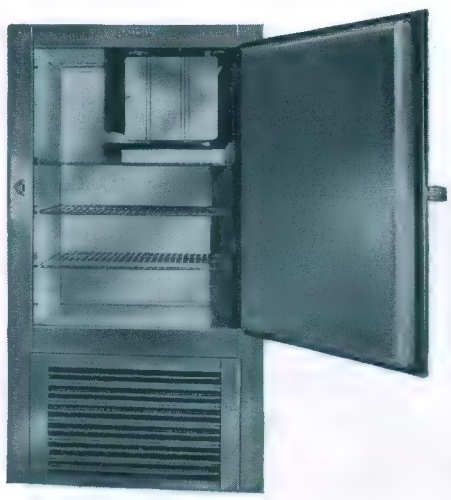

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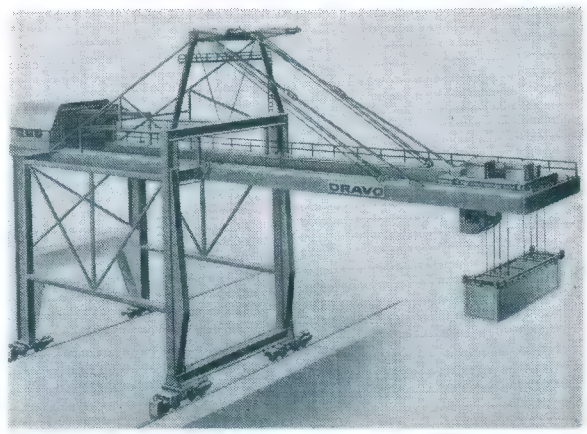
New Cargo Container Crane Introduced by Dravo

Dravo Corporation, Pittsburgh, Pa., one of the leading designers and producers of large bulk materials handling equipment, has announced a new line of cargo container cranes.



This tower type unit in Dravo's new line of "Dockmaster" container cranes is designed for use where containers will move directly between ships and rail cars or truck trailers. A bridge type structure is offered for locations where containers move between ships and a dock-side storage area.

To be known as "Dockmaster" container cranes, the new line offers machines for all standard container sizes and a wide range of loads. The machines are of two basic types, both land-based.

The bridge type unit, designated as the "BT," is designed for use at locations where containers are moved between the ship and a storage area under the span of the crane. The more compact tower type, designated as the "TT" series, is for operation where containers are moved directly between the ship and rail cars or trucks.

Both types are traveling structures, man-trolley equipped, and employ a rectangular spreader frame that latches automatically to the top of the cargo container for high speed loading and unloading.

The operator controls the entire operation from the cab suspended below the trolley. Since the cab is directly above the load at all times, the operator is assured the complete visibility essential for quick and accurate positioning of both machine and container.

The section of trolley runway extending over the ship is mounted on a hinged apron that can be raised to permit travel without interference with the vessel's superstructure or rigging. When fully raised, the span automatically engages heavy steel latches that hold it securely in position.

Power can be supplied from either a crane-mounted Diesel engine generator set or from an existing electric power source on the dock.

Incorporated in the "Dockmaster" design are many of the mechanical and structural features developed by Dravo during many years of building ore and coal bridges and bulk cargo ship unloaders for service at East Coast, Great Lakes and Gulf Coast Ports and inland rivers facilities.

For more information on "Dockmaster" container cranes contact Materials Handling Department, Dravo Corporation, Pittsburgh 25, Pa.

Port Houston Iron Works Awarded Three Barge Contracts

Port Houston Iron Works, Inc., Houston, Tex., will build a 225-foot by 50-foot by 14-foot-six-inch independent tank barge for Texas Gulf Sulphur Company, to be used for moving molten sulphur. The barge will have a capacity of 2,500-dwt.

Sioux City & New Orleans Barge Lines, Inc. has awarded the yard a contract for the construction of a combination dry-cargo and oil barge, measuring 200 feet by 40 feet by 11 feet.

For C. W. Edwards, Inc., Port Houston Iron Works will build four 165-foot by 36-foot by 10-foot-three-inch oil barges.

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Ship Hawser, Towing Lines, Guy Ropes, Signal Halyards, Ladder Falls, Boat Falls, etc.

a) Absolutely free from deterioration and decomposition.

b) Strong — 30 to 40% tougher than ordinary Manila rope of the same standard.

c) Light — lighter than ordinary Manila rope by 20%.

d) Will not stiffen in water, even in frigid weather.

e) Much easier to handle and will save you labour and time.

f) Lowest priced in synthetic fibers.

Recommended by Japanese Marine Corporation, Manryo Rope is used by the majority of Japanese steamships.

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Note:

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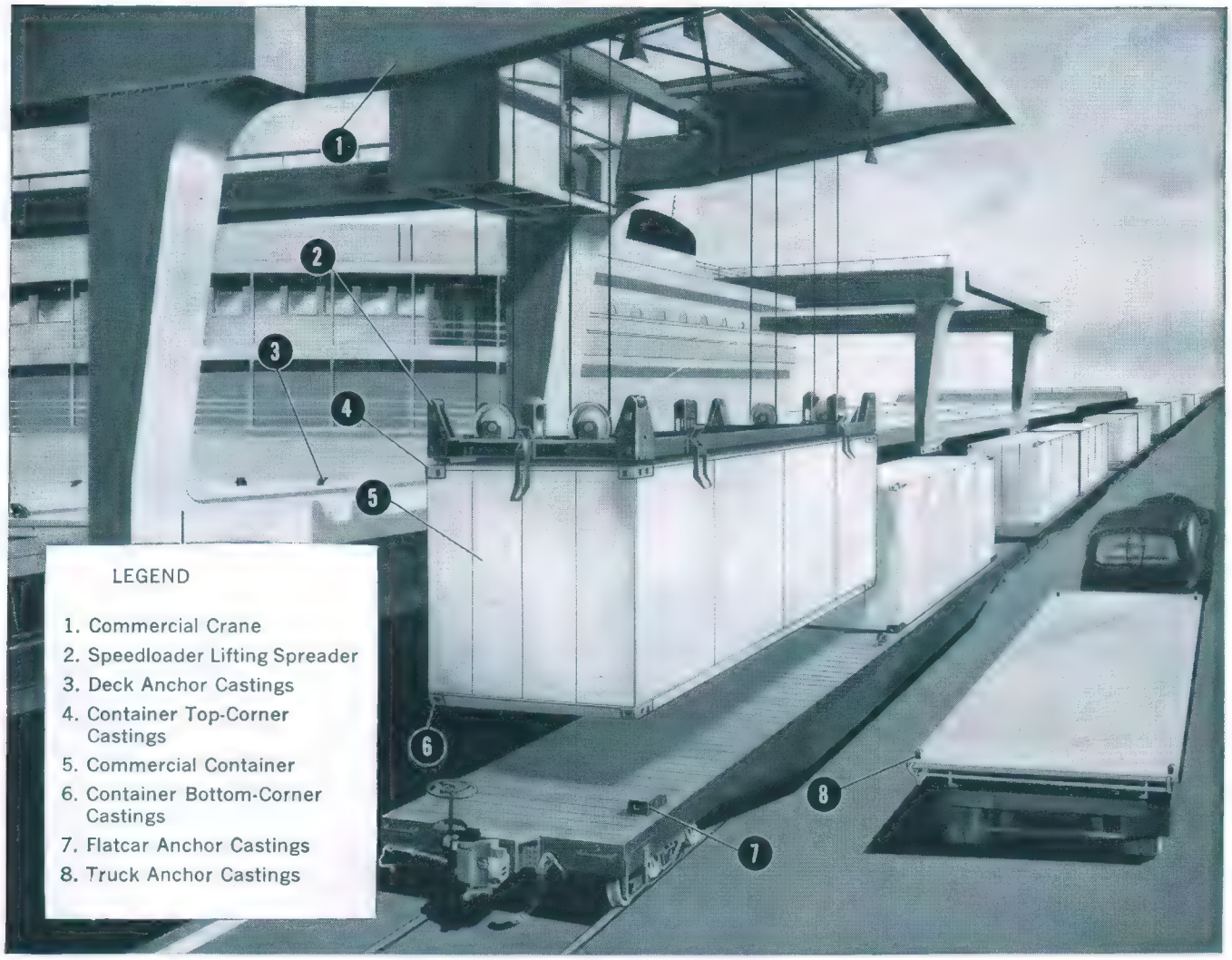

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can be built into any container and any crane by any manufacturer

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ADAPTABLE TO ANY CONTAINER, crane or vehicle, National supplies only the essential Speedloader components to commercial producers of these items. That means users can purchase their cranes from any crane manufacturer, their containers from any container manufacturer.

VERSATILITY OF THE SPEEDLOADER concept of containerized cargo handling provides for automatic operation (electric, hydraulic, pneumatic) on shipboard or shore, as well as semi-automatic methods (fork-lift truck, roller conveyor, hook-hoisting), or even manual operation (electric hoist, A-frame) in smaller plants.

LOWER CARGO HANDLING COSTS, through increased capability for cargo handling, is only one of the advantages. Other important advances: sharply reduced terminal time, lower crating and packaging costs, reduced damage to merchandise, elimination of theft and pilferage.

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Transportation Products Division

NATIONAL MALLEABLE and STEEL CASTINGS COMPANY

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A request, on your business or professional letterhead, will bring your copy of Bulletin 13959 "National Speedloader Container Handling System" by return mail.

J. R. Sensibar leaving Christy Corporation shipyard for trial runs after completion of conversion.

The Modernization Of The J. R. Sensibar

One Of The Largest Single Winter Lay-Up Conversions Forms First Part Of Reconstruction Program For Lakes Self-Unloader

The conversion of the Steamer J. R. Sensibar to the Motor Vessel J. R. Sensibar was one of the largest modernization contracts undertaken on the Great Lakes during a single winter lay-up season. The contract called for the complete removal of the old propulsion plant, steering gear and altering other auxiliary equipment; changing the size of the engine-room; renewal of all living quarters aft; renewal of living quarters forward; raising and remodeling of all cargo hatches; extending and rebuilding the cargo-hold conveyor; building and installing a new 260-foot aluminum boom, and rewiring the entire vessel.

This 1960 conversion of the vessel is the first part of a two step program. During the 1961 lay-up the self-unloader will be lengthened by 60 feet. The first phase was handled by the Christy Corporation, Sturgeon Bay, Wis. The lengthening will be performed by the American Ship Building Company, Cleveland, Ohio.

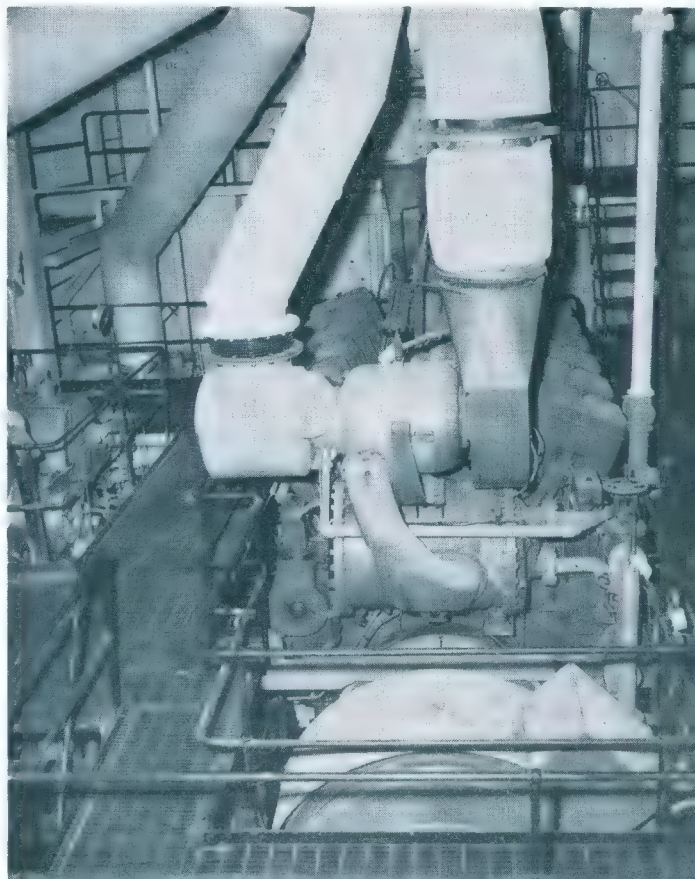
The modernization plans for the vessel, owned by the Columbia Transportation Division of Oglebay Norton Company, were prepared by R. A. Stearn, Inc., naval architects and marine engineers, Sturgeon Bay, Wis., with Meissner Engineers, Inc. of Chicago preparing the design for the new aluminum boom.

The conversion made it possible to decrease the size of the engine-room, thus allowing for an increase in cargo capacity. This coupled with the raising of the spar deck hatches and

(Continued on page 45)

New 260-foot aluminum boom during tests at shipyard.

Nordberg V-type Diesel engine provides propulsion power.



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Sinclair

Sinclair MARINE LUBRICANTS

(Continued from page 43)

the addition of the full poop structure will give the vessel added cubic now and will allow for an increase in summer draft of about two inches after lengthening.

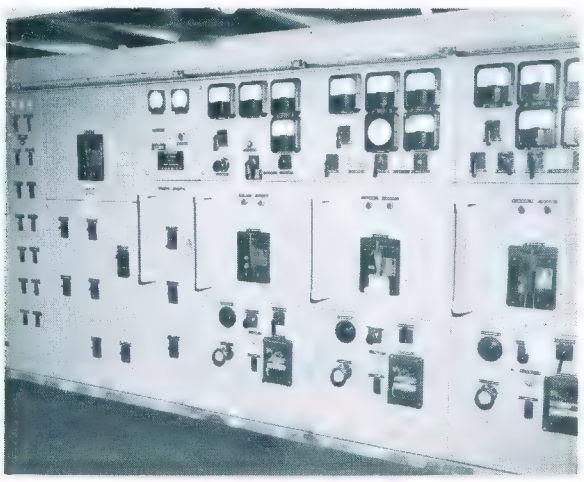
The new propulsion plant consists of a Nordberg type FS-1313-HSC four-cycle "Supairthermal" non-reversing marine Diesel with a maximum continuous rating of 3,200-bhp at 515 rpm. The Diesel drives a KaMeWa controllable-pitch propeller through a Western Gear model 480 MGV 240A vertical offset reduction gear. The reduction gear is provided with a Kingsbury thrust bearing, quill shaft and Wichita pneumatic clutch.

The clutch is installed to disengage the propeller shaft when the main engine is used to provide power for the unloading conveyors. An Electric Products 800-kw, 450-volt, three-phase, 60-cycle generator for unloading power is driven by the main engine and is located between the engine and reduction gear.

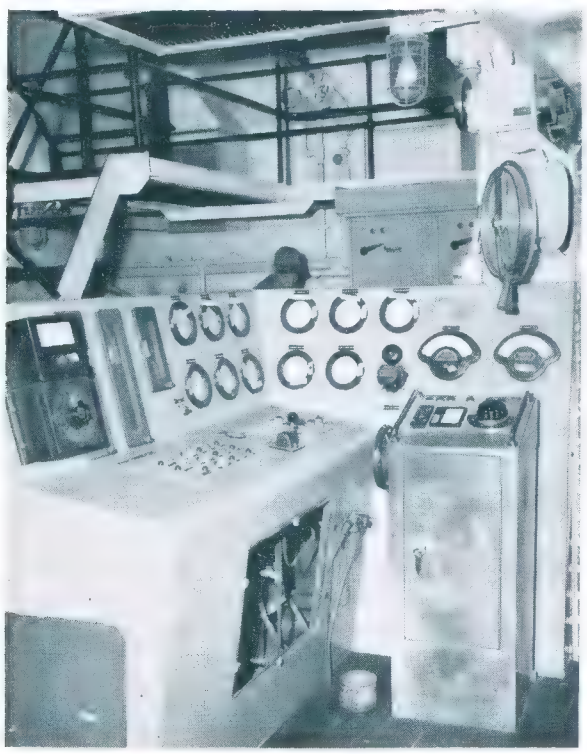
The 13-foot-six-inch diameter c-p propeller has four blades. The propeller blade design details were based on model tests conducted at the KaMeWa laboratory. Hydraulic pressure for pitch change is provided by a main pump chain-driven off the propeller shaft and a motor-driven standby pump which cuts in automatically when the main pump pressure drops during maneuvering.

Comparison Of Vessel's Characteristics—Before And After

	Prior To 1960 Conversion	1960 Conversion	1961 Lengthening
Length overall	552'-1"	552'-1"	612'-1"
Length Betw. Perps.	530'-0"	530'-0"	590'-0"
Beam, Mld.	56'-0"	56'-0"	56'-0"
Depth, Mld. to Spar Dk.	31'-0"	31'-0"	31'-0"
Draft, Keel, Summer	20'-10¾"	21'-5¾"	21'-1" (Est.)
Max. Deadweight, Midsum.	11,200 S.T.	11,800 S.T.	13,300 S.T.
Max. Coal Cargo Capacity	9,300 S.T.	10,500 S.T.	12,200 S.T.
Ballast Capacity	4,700 S.T.	4,900 S.T.	5,500 S.T.
Gross Tonnage	7,254	7,522	——
Capacities by Holds:		**Cu. Ft.**	**Cu. Ft.**
Hold #1		76,350	76,350
Hold #2		51,850	51,850
Hold #3		79,000	79,000
Hold #4		64,150	64,150
Hold #5		38,440	102,500
Hold #6		90,100	90,100
Total Cubic		399,890	463,950



Part of new electric switchboard.



Main engine and c-p propeller control console.

Engine speed and propeller pitch control is a pneumatic system with the main components supplied by Westinghouse Air Brake. The pitch governor is driven from the propeller shaft and automatically regulates the propeller pitch relative to shaft rpm. Control of the engine speed and c-p propeller is handled by single-lever control stands installed on the bridge and in the engine-room. The engine-room control stand also is equipped for direct mechanical control of the pitch. Mechanical control is engaged automatically on loss of control-air pressure. Emergency control of the engine speed is obtained by manual adjustment at the fuel governor.

A five-position pneumatic selector valve in the engine-room sets control conditions as follows: neutral, engine-room control of pitch and speed, bridge control of pitch and speed, split control for bridge pitch control and engine-room speed control, and the generating condition.

Ships service power is supplied by two 300-kw, 450-volt, three-phase, 60-cycle Electric Products generators driven by White Diesel Engine Division model 40-SX-6 engines. The generator sets, located in acoustically treated enclosures, are wired parallel with the 800-kw unloading generator to provide power to the unloading conveyor motors for clean-up purposes when the main engine is on propulsion.

Steam for ships heating, fuel oil heating, deck winches and boom swing winches is supplied by a new Foster-Wheeler "D" type package boiler with a capacity of 10,000 lbs. per hour at 125 psi. The existing boiler with a capacity of 2,500 lbs. per hour was re-installed as a standby boiler.

All electric power is distributed through the main switchboard and the control centers for ships service and unloading equipment. The main switchboard and control centers were fabricated by Christy Corporation. The new boom, incline conveyor and boom-hoist motors were furnished by Westinghouse.

The new 256-foot aluminum unloading boom is 60 feet longer than the previous steel boom. Aluminum was selected because of its weight saving of about 25 tons. This weight saving allowed the existing A-frame and supporting structure to be revised with the addition of minor stiffening. Other advantages of this new boom include a reduction of boom swing, tag and topping winch and rigging requirements, and a considerable reduction in heeling effect of the boom when swung overside for unloading.

The construction of the boom utilized Alcoa 2014-T6 alloy for side trusses and 6061-T6 for other parts. The boom was assembled using steel rivets, driven cold, by means of a special squeeze riveter fabricated by Christy Corporation.

The new pilot-house utilized existing equipment which was in good condition but a new Sperry radar, Mackay radio-direction finder and Galbraith public announcing system were installed. New Marine Safety davits were fitted for the existing lifeboats.

The principal equipment supplied for this conversion, other than those mentioned previously, are:

Turbo-chargers	DeLaval
Governors	Woodward
Rudder	Christy
Steering gear	C. H. Wheeler
Intake silencers	Burgess-Manning
Exhaust silencers	Kittell
Coolers	Ross
Temperature controls	Armot
Intercooler temperature control	Fulton-Sylphon
Air compressors	Quincy
Standby L. O. pump	DeLaval
Lube-oil filter	Purolator
Lube-oil filter pump	Roper
Lube-oil bypass filter	Hilliard
Propeller oil pumps	DeLaval
Alarm system	Brown
Pyrometer	Illinois Testing
Shaft bearings	Rigler
Standby J. W. pump	Aurora
Ballast pumps	Worthington
Ballast priming pump	Nash
Bilge pump	Marlowe
General service pump	Weinman
F. O. transfer pump	Tuthill
F. O. booster pump	DeLaval
F. O. heaters	Davis
L. O. purifiers	DeLaval
Potable water pumps	Burks
Ventilation fans	Aerovent
Condensate filter	Davis Filtration
Whistles	Leslie
CO_2 systems	Kidde
Conveyor belts	U.S. Rubber
Idlers	Chain Belt
Air cylinders	Galland-Henning
Bearings	Dodge

Maritime Administration Announces Publication Of Nuclear Ship Report

Rear Admiral **Walter C. Ford**, Acting Maritime Administrator, U.S. Department of Commerce, recently announced the publication of a report entitled: "Nuclear Prototype Power Plant Installation in Merchant Ships."

The 192-page report presents the results of a study performed by the Ford Instrument Company, Division of Sperry Rand Corporation, and its sub-contractor, Maryland Shipbuilding & Drydock Company, under contract of the Maritime Administration. The study aims to evaluate various techniques for pretesting and installing nuclear prototype power plants in merchant ships and to develop that technique, offering the widest general application using time, cost and safety as essential criteria.

Several methods by which nuclear prototype power plants can be pretested and installed in merchant ships are presented and evaluation is made of their general application to the construction and conversion of the basic classes of ships. Effects of test site locations, reactor test programs, reactor test vehicle towing procedures, etc., are also evaluated.

Selection is made of an optimum technique having the widest general application. This concept is then applied to a reference 32,790 dwt tanker with a gas/superheated steam nuclear power plant, and the concept developed in sufficient detail to yield overall gross cost estimates and production schedules. Also presented are the test site requirements, reactor test program and hazards evaluation.

The printed report, identified as No. FICo 112, is obtainable from the Office of Technical Services, U.S. Department of Commerce, Washington 25, D.C., at a cost of $3.00 a copy.

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Photo courtesy UNIVERSAL DRILLING COMPANY INC., New Orleans, La.

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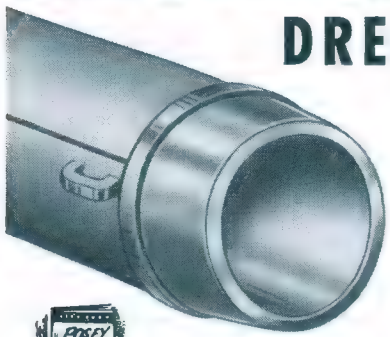

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Tidefleet Organized To Coordinate Activities Of Flying A Fleet

Coordination of certain activities of the expanding Flying A fleet of vessels owned and operated by subsidiaries of Tidewater Oil Company will result from organizing the Tidefleet Corporation, according to an announcement by **S. H. Harrison,** President of the new corporation.

The Flying A fleet consists of 10 supertankers now in service, ranging in size from 46,000 to 53,000 deadweight tons.

Tidefleet Corporation will have its headquarters in the Pennsylvania Building in Wilmington, Del.

Pacific Far East Lines Buys Freighter Lanakila At Public Auction

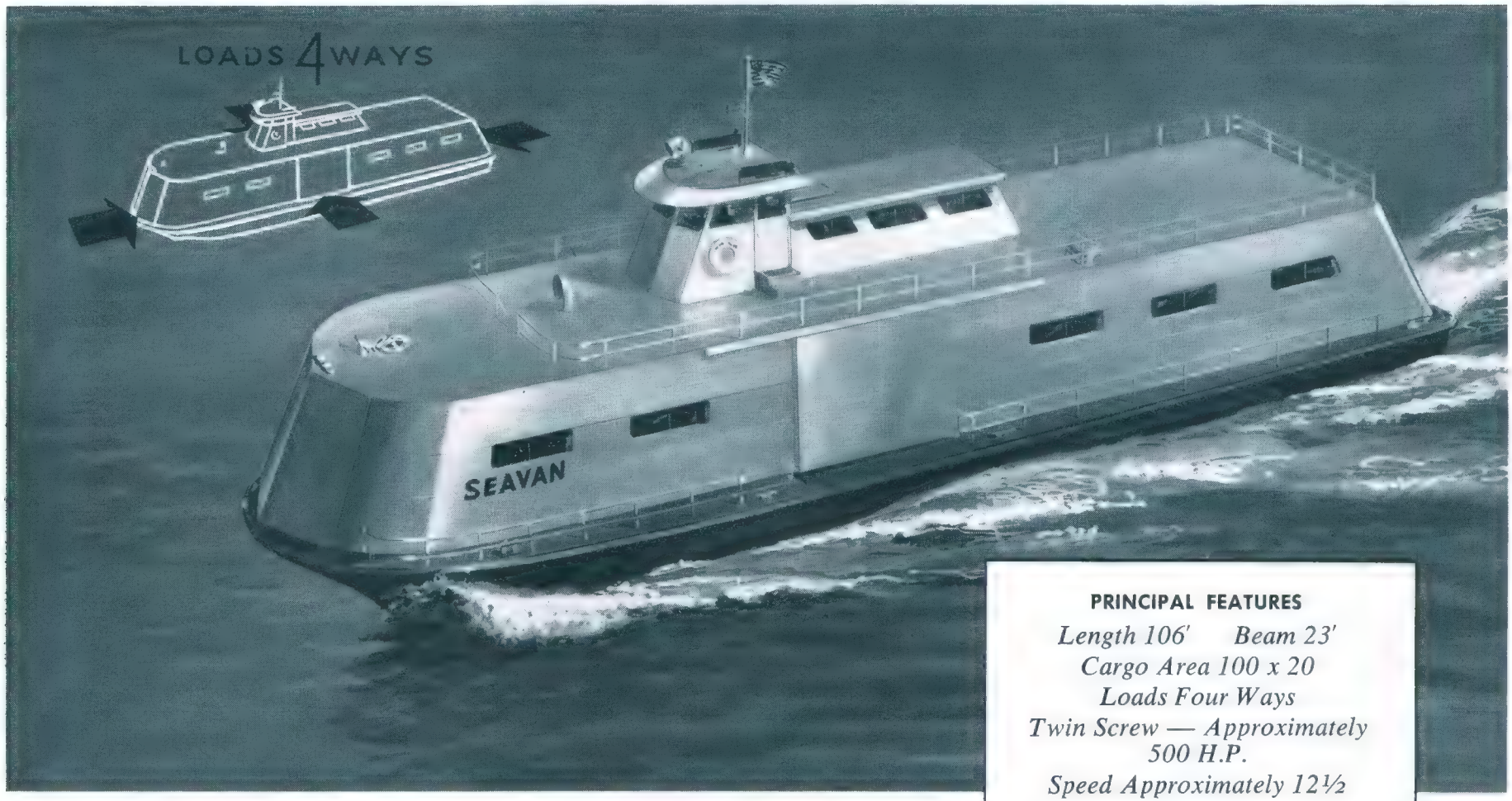
Pacific Far East Lines paid $1 and assumed mortgages amounting to $757,476 for the acquisition at a public auction of the freighter Lanakila, formerly owned by Dorama, Inc. Prior to that, she was owned by PFE and operated under the name Indian Bear. The vessel will be renamed India Bear and placed in the line's Guam service.

MISS MARITIME: Renette Wright, the United States Lines' entrant in the "Miss Maritime 1960" contest held in Honolulu under the auspices of the National Propeller Club, recently defeated 10 other candidates representing shipping companies that service the island for the coveted title. **Miss Wright** is pictured with **Frank Wight,** President-elect of the Propeller Club, Port of Honolulu, which will be the site of the National Convention of the Propeller Clubs of America this fall.

AVAILABLE IN EARLY FALL....

from Blount Marine

VERSATILE 106′ Roll-on Cargo Vessel

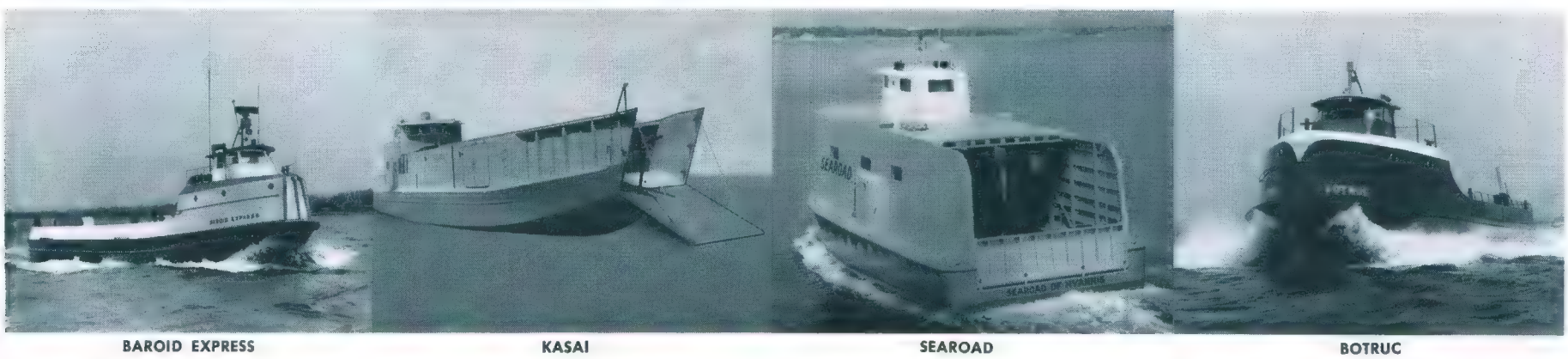


PRINCIPAL FEATURES

Length 106′ Beam 23′
Cargo Area 100 x 20
Loads Four Ways
Twin Screw — Approximately 500 H.P.
Speed Approximately 12½ Knots
Draft Light 4′-0″
Draft Loaded 5′-6″
Approximate Cost $750 per Cargo Ton

This Roll-on Cargo Vessel, designed by Blount Marine Corp., is currently under construction, and will be available early in the Fall. Unusually versatile, it can be loaded and unloaded from bow, stern, starboard and port; versatile because it can be used as a ferry or cargo vessel. Even with a 100 ton cargo, it can operate in 5′6″ water depth. If your special needs require a vessel as versatile as this, write or call now for further details. Also available in lengths down to 64′6″, same mid-body.

THESE VESSELS ARE SUCCESSFUL FORERUNNERS . . .



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Length 85′ Beam 23′ Gulf of Mexico

KASAI
Length 90′ Beam 23′ Florida-Bahamas Run

SEAROAD
Length 64′-6″ Beam 24′ Caribbean

BOTRUC
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$15 Million Navy Contract Awarded To Avondale

Avondale Marine Ways, Inc., New Orleans, La., will build two 2,600-ton escort vessels for the U.S. Navy under a contract amounting to $15,850,156.

Coast Engineering Named Design Agents For East Coast Base

Coast Engineering Company, naval architects and marine engineers of Norfolk, Va., has been awarded a contract by the U.S. Coast & Geodetic Survey to prepare the master design plans for the construction of a new East Coast ship base, it was announced by **Harry W. Keeling, Jr.**, President.

The new base, to be located on government property in Norfolk, will have sufficient pier space for all East Coast vessels, office buildings, supply storage, shops, oceanographic laboratory, chart engineering and reproduction offices.

A paved parking space and working area will also be provided with facilities which will include all ship requirements at dockside and area floodlights for night lighting of the entire work space.

The program, with construction of the first pier and necessary dredging commencing this month, is to be completed in five phases over a period of five years.

Moran Tug Tows Dutch Tanker To Kiel

The Moran Towing and Transportation Company's oceangoing tug Edmond J. Moran has successfully towed to Kiel, Germany, the damaged Netherlands tanker Astrid Naess.

The 16,279 ton tanker had been brought to New York by the towing firm before starting the long ocean voyage to Germany. The Edmond J. Moran, under command of Captain **Alexander D. Stewart,** left New York on May 6 and arrived on schedule in Kiel Harbor on June 5.

AWO Spring Meeting Held In Seattle

The board of directors of the American Waterways Operators, Inc., recently held its spring meeting in Seattle. Executives of the nation's shallow-draft water carrier industry met to discuss economic conditions and consider current Federal administrative and legislative developments affecting the industry.

One of the main topics of discussion at the meeting was the current hearing by the Interstate Commerce Commission on the application by the Illinois Central and Southern Pacific railroads for the right to purchase the John I. Hay Company barge line.

Robert L. Gray, Transportation Manager of the Ashland Oil & Refining Company, Inc., Ashland, Ky., Chairman of the AWO Board, presided over the two-day meeting.

Braxton B. Carr, President of AWO, Washington, reported on administrative and legislative developments of interest to the industry, including such questions as proposals to levy waterways tolls, and geographic price discrimination tactics by the railroads. He also reported to the meeting on the current transportation study being carried out by the Senate Interstate and Foreign Commerce Committee.

Maine Maritime School Adds Power Laboratory

Construction on a $166,000 power laboratory and classroom building is scheduled to start in August at the Maine Maritime Academy in Castine, Me.

The single-story building will have six classrooms, according to Rear Admiral **George J. King,** (ret.), superintendent of the maritime training school.

Two of the six classrooms will be used for special training purposes—one will house a boiler with fully automatic controls and Diesel electricity-generating equipment, and the other special classroom will hold a nuclear-reactor simulator to be used in a course in nuclear propulsion to be introduced this fall.

C. H. Wheeler/Griscom-Russell Story Told In Brochure

The recent combination of two long established companies offering mutually complimentary products and services to four major industrial markets is told in a new 12-page brochure "The C. H. Wheeler/Griscom-Russell Story."

The booklet details capsule histories of The C. H. Wheeler Mfg. Co. of Philadelphia, established in 1887, and the Griscom-Russell Co. of Massillon, Ohio, founded in 1867. The two companies combined early this year when the Ohio firm joined Wheeler as a subsidiary of Hamilton-Thomas Corporation of Hamilton, Ohio. Both produce non-competing but related equipment for the power, marine, processing and nuclear fields. In the marine field, Wheeler produces surface condensers and ejectors, steering gears and deck machinery, with Griscom-Russell making salt water distilling plants, fuel oil tank heaters and heat exchange units.

Many of the products are pictured in the brochure, plus listing of these and a number of other products for general industry.

For a free copy, write on your letterhead to The C. H. Wheeler Mfg. Co., Department 405, 19th and Lehigh Avenue, Philadelphia, Pa.

Carrier Air Conditions Crews Quarters On Two Matson Ships

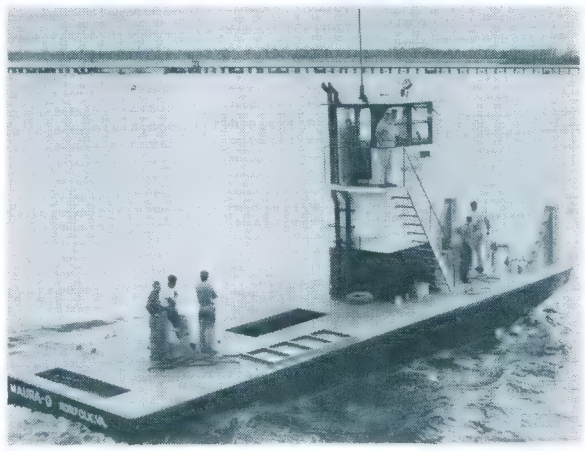
A complete air conditioning system for crew accommodations has been installed aboard the Matson Lines' S.S. Hawaiian and S.S. Californian, under a renovation program at the Alabama Shipbuilding & Dry Dock Company, Mobile, Ala.

Carrier Corporation officials reported that use of a newly-developed prefabricated Spira-Pipe spiral conduit ductwork has made possible the installation of the air conditioning system within a nine-week period allotted to convert the former ore carriers into bulk sugar and partial container vessels.

The air conditioning plant consists of two high-velocity systems on each vessel, one for forward quarters, and the other for aft areas. Each system consists of a Carrier marine condensing unit assembly and factory-prefabricated central-station air conditioning unit.

U.S. LINES CITED: At a ceremony in the company's home office, 1 Broadway, New York City, the special citation of the Public Health Service for excellence in vessel sanitation was presented to the United States Lines. It signified that each of the 55 vessels operated by the Line had achieved a rating of 95 per cent or better in official Public Health Service inspections involving 166 separate items of sanitary construction and maintenance. The citation, the fourth received by the United States Lines since 1957, covering the passenger liners United States and America as well as 53 cargo ships, was presented to Captain **Jones F. Devlin,** Vice-President for Operations of the company, by **Sylvan C. Martin,** Regional Engineer of the Public Health Service. Shown above from left to right are: **C. D. Gibbons,** Executive Vice-President of the United States Lines, Mr. **Martin** and Captain **Devlin.**

New Bern Shipyard Delivers Pusher Type Towboat Designed By Coast Engineering



Crews quarters have been deleted for economy since the Maura-O is used for day work only.

Coast Engineering Company, Norfolk, Va., designed and supervised the construction of a 50 foot pusher type towboat, the Mauro-O, which New Bern Shipyard, Incorporated, New Bern, N.C., recently delivered to the owner, The Edison Shell Company of Fort Myers, Fla. The vessel is powered by two General Motors 6-71 Diesels through "Twin Disc" model X9212A 4.38 to 1 reverse reduction gears, driving Columbian, 48 inch diameter by 38 inch pitch, three-bladed type H Columbian propellers. Engines are pilot house Westinghouse air controlled. Engines are keel cooled. Entrance to the engine room is through pilot house trunk. The after deck is flush and can be used for storage of work gear. On trials, the vessel's one mile river run was clocked at 15-mph. Coast Engineering Company designed the hydraulic steering system, which gives the vessel exceptional maneuverability. Mounted forward, behind the pusher knees, are two 5-ton Beebe model H-8 hand-operated winches. The height of the pilot house affords excellent vision combined with plenty of power and finger tip steerage control which rates this vessel with the finest of its class.

Dravo To Build Ten Hopper Barges

Dravo Corporation, Pittsburgh, Pa., will build ten covered hopper barges with dimensions of 195 feet in length, a beam of 35 feet and a draft of 11 feet. These barges will be built for stock purposes.

Snow-Nabstedt Appoints Apex Marine Northwest Distributor

The Snow-Nabstedt Gear Corporation of Hamden, Conn., manufacturers of a nationally known line of marine and industrial gears and transmissions, has recently appointed the Apex Marine and Equipment Company of Seattle as their northwest distributor. Their territory will cover all northwestern states as well as Alaska.

As part of Snow-Nabstedt's new sales organization, Apex Marine will operate under the regional representative, **Arthur H. Nelson,** on the sale of marine reverse and reduction gears.

An increased inventory of gears and parts are being maintained by Apex to meet the demands of the marine trade. It is expected that most marine gear models with popular reduction ratios will be stocked in Seattle at all times. These various models are also adaptable to a wide variety of engines in their horsepower range.

30 Day Delivery

Sectional Barges

are designed for you for ease of transportation, assembly, and maintenance.

They are a must for dredging companies, water construction contractors, and bridge builders.

They are high in re-sale and rental value, but low in purchase price. Prices start as low as $895.00 per section F.O.B.

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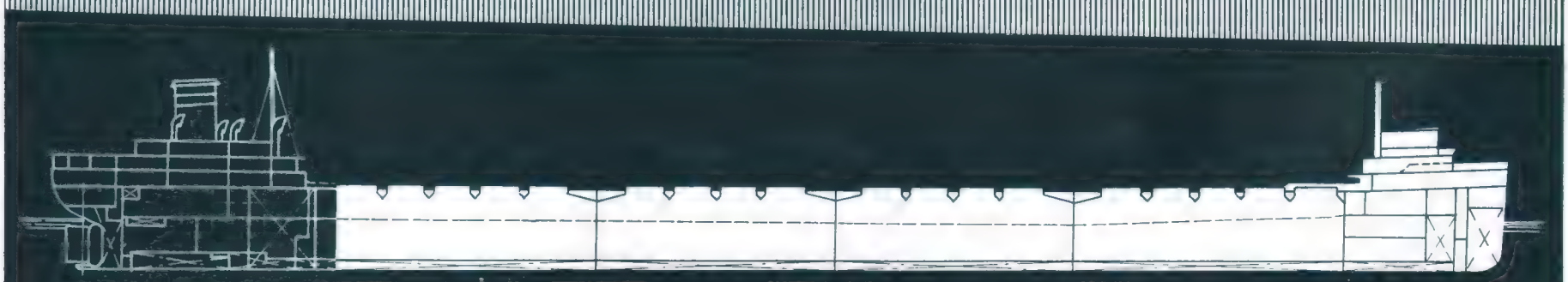
T2–TANKER CONVERSION INTO A CONTAINER SHIP FOR 476 CONTAINERS



T2–TANKER CONVERSION INTO A BULK CARRIER FOR GREAT LAKES SERVICE

WREATH CEREMONY ABOARD SS INDEPENDENCE: At a recent pre-sailing ceremony Captain **Willis Rogers,** Commander, Robert L. Hague Merchant Marine Industries Post 1242, American Legion, presented Captain **Hugh B. Switzer,** master of American Export Lines' SS Independence, with a memorial wreath, to be dropped at sea in memory of departed shipmates of Robert L. Hague Post. Standing at right is Admiral **John M. Will,** President, American Export Lines, a member of the Post.

Sea-Land Agency Names Arthur Kennedy

Arthur R. Kennedy, prominent in maritime and Puerto Rican affairs, has been named Vice-President of Sea-Land Sales of Puerto Rico, Inc., island agency for trailership freight. His headquarters will be at 19 Rector Street, New York, N.Y.

President **Alfonso Valencia** said the appointment was made to meet increased demand, since the recent doubling of weekly sailings to and from Puerto Rico by Sea-Land trailer ships. Sea-Land Sales of Puerto Rico is an independently owned Puerto Rican corporation, which has the sales and promotion agency for the Sea-Land line.

Mr. **Kennedy** was Senior Vice-President of the Bull Insular Line and until last year was in charge of its Puerto Rican office.

J. R. Dant Elected Chairman of CASL

J. R. Dant, President of States Steamship Company of San Francisco, was elected Chairman of the Committee of American Steamship Lines at the close of a three-day business meeting held at Pebble Beach, Cal.

Mr. **Dant** replaces **George Killion,** President of American President Lines of San Francisco, who has served as the Committee's chairman for the past year.

The Committee is composed of the 15 American-flag steamship companies serving essential world trade routes under operating differential contracts with the government.

Admiral **John M. Will,** President of American Export Lines of New York, was elected Vice-Chairman of the group.

Mr. **Dant** has been affiliated with Pacific Coast shipping and lumber interests for more than 25 years. He served with the Navy in World War II and a short time after his return became General Manager of States Steamship Company and was named President in 1956. The company operates 13 cargo ships in trade between the Pacific Coast, Hawaii and the Orient. Mr. **Dant** is also President of the San Francisco Maritime Museum and a trustee of Mills College, Oakland, Cal. He is a native of Portland, Ore., and a graduate of the University of Oregon.

During their three-day meeting, executives of the Committee's 15 member lines discussed new ship design to facilitate dispatching cargo more effectively, progress in the current $4,700,000,000 ship replacement program now underway by their companies, and shipping industry public relations.

Members of the Committee of American Steamship Lines are: American Export Lines, Inc., American Mail Line Ltd., American President Lines, Ltd., Bloomfield Steamship Company, Delta Line (Mississippi Shipping Company, Inc.), Farrell Lines Incorporated, Grace Line, Inc., Gulf & South American Steamship Co., Inc., Lykes Bros. Steamship Co., Inc., Moore-McCormack Lines, Inc., Pacific Far East Line, Inc., Prudential Steamship Corporation, States Steamship Company, The Oceanic Steamship Company and United States Lines Company.

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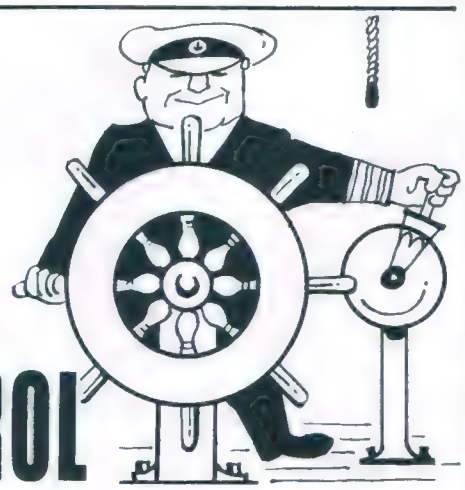

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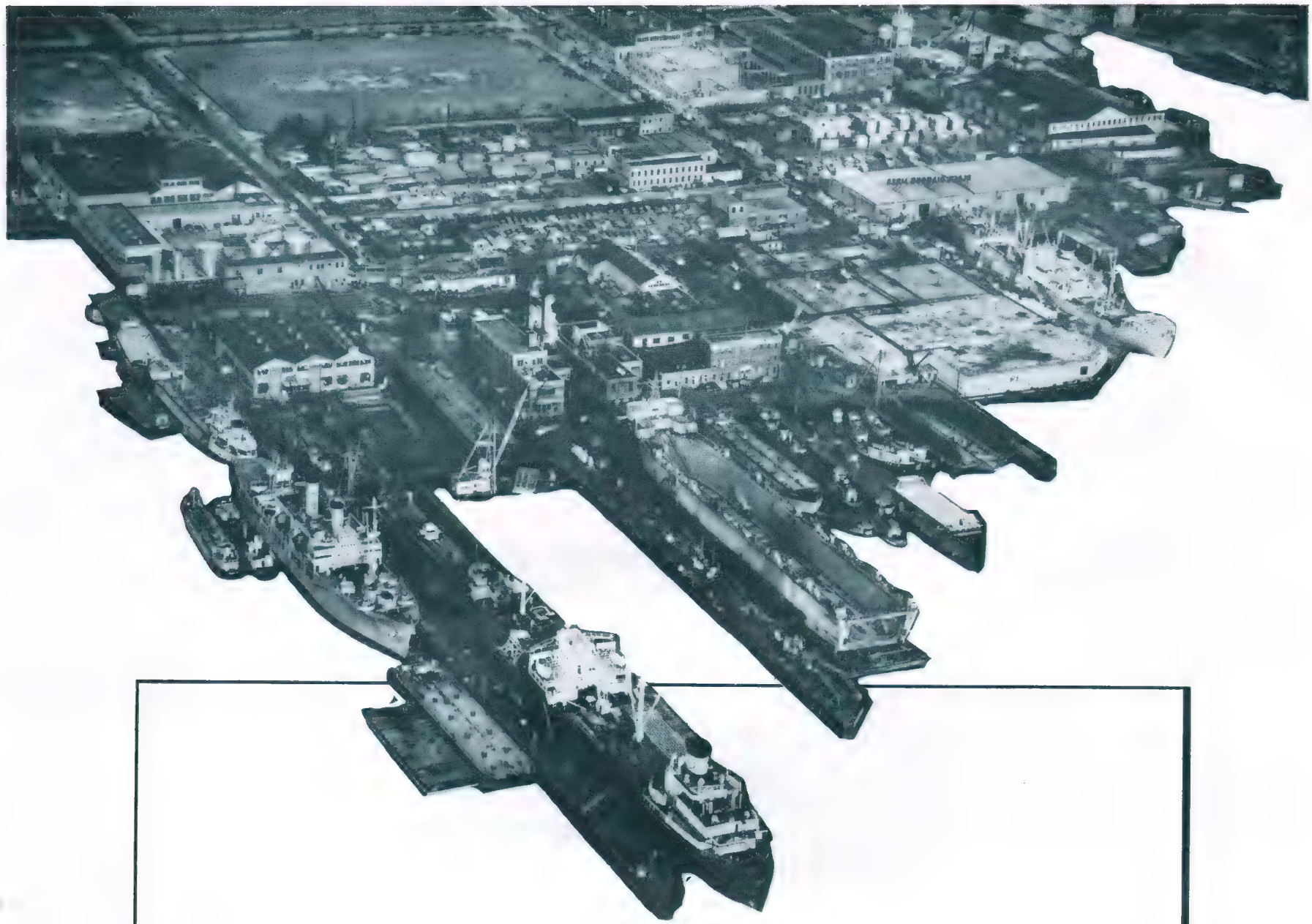

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Diesel Shipbuilding Completes Aluminum Twin-Screw Cruiser And Twin-Screw Steel Tug

Manned by a Diesel Shipbuilding crew, the all-aluminum cruiser is shown on her trials in Jacksonville, Fla.

The new twin-screw tug has a fuel oil capacity of 5,200 gallons.

Diesel Shipbuilding Company, Jacksonville, Fla., recently announced the completion of a 55-foot all-welded aluminum twin-screw cruiser and a 57-foot twin-screw tugboat, both diesel-propelled.

The all-aluminum pleasure craft has a beam of 14 feet, a depth of 8.5 feet and is powered by a pair of General Motors 6-71 turbo-charged diesel engines with 2:1 reduction. Each engine is rated at 300-hp at 2,300 rpm. The vessel, constructed of Alcoa aluminum, is fitted with three staterooms with two bunks each, three heads, two showers, and has a cruising range of 1,500 miles.

The new tug has a beam of 17 feet three inches and a depth of eight feet six inches. With a hull, deck and bulkheads built of five-sixteenths-inch steel plate, the new tug is powered by a pair of General Motors model 6-110 marine diesel engines with 4.5:1 reduction turning a pair of Ellis 50-inch by 40-inch four-blade propellers.

Bethlehem Steel And Douglas Aircraft Plan Anti-Submarine Craft

A recent announcement indicates that the Shipbuilding Division of Bethlehem Steel Company and Douglas Aircraft Company are collaborating on a proposal for a 60-foot anti-submarine hydrofoil craft for the U.S. Navy.

Avondale To Build Six Hopper Barges

Avondale Marine Ways, Inc., New Orleans, La., has been awarded a contract to build six 195-foot by 35-foot by 11-foot hopper barges for Magnolia Towing Company, Inc., Vicksburg, Miss.

Boeing To Build Hydrofoil For Coastal Anti-Sub Duty

Boeing Airplane, Seattle, received an order to build a 115-foot hydrofoil craft, PC(H), for coastal anti-submarine patrol. The amount awarded is $2,082,215. J. M. Martinac Shipbuilding, Tacoma, Wash., will take part in the construction of the vessel.

The vessel has been under intensive research and development by the U.S. Navy.

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50 HP—American Hoist—unit cargo winch—Class 8590A—Type CK9—double gear—single drum—Westinghouse motor—D.C. 525 RPM—230 volts—180 amps—compound wound—condition perfect.

25 HP—Welin Davit & Boat Corp.—boat handling winch—Type BWB—load 17,200 lbs.— 2 drums—G.E. motor D.C. 1550 RPM—Type CDM—230 volts—90 amps—compound wound.

7.5 HP—Star Elec. Motor Corp. Anchor Windlass. 115 volts—60 amps. P. C. boat type.

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Cargo Winch—2 cyl. double geared horizontal—5/15 tons. 7 x 12 . Working pressure 125 PSI.

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Type TAS Air Motor Towing Winch—tops in pull, performance and ruggedness.

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6—General Motors, Model 16-278A, as removed from L.S.M. Vessels, 1600 HP, 720 RPM, 16 cylinders, solid injection, with reverse gears, and with component auxiliary equipment. Engine in good condition and reasonably priced.

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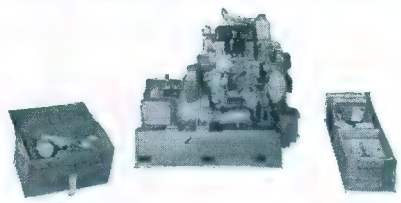
NEW 10KW DIESEL GENERATOR SETS



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ENGINE: Superior model GAB-2—2 cyl.—4½ x 5¾—1200 RPM—right hand—24 volt electric starting system. With Harrison heat exchanger model HE2416-387—engine operating panel—raw water pump—oil cooler—lube oil filter. GENERATOR: Delco model I-3678—10 KW—120 volts DC—83.3 amps—1200 RPM—continuous duty—40°C rise—self-excited—stab. shunt—drip-proof.

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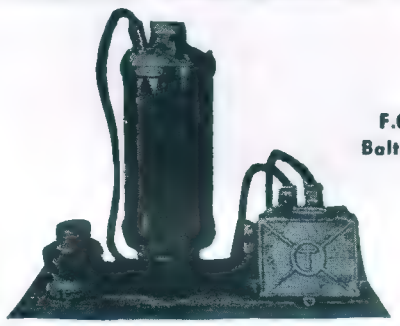
PEERLESS SUBMERSIBLE PUMPS



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Unused bronze pumps—4 HP 230 volts DC—3200 RPM—17.4 amps. 120 GPM @ 63' total head; 200 GPM @ 47' total head. Shut-off pressure 87'. Motor mfg. by Ohio Electric Co.—totally enclosed—water cooled—compound wound—continuous duty—class A insulation—equipped with waterproof starter and 50' of 4-conductor waterproof cable. Complete with foot valve—strainer—control. For standard 2½" hose. Pump can be lowered into water in any position and will pump continuously.

ALSO AVAILABLE: Sawyer pumps, as above, but in 115 volt DC models.

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Steam Engineers for 15 cubic yard Dipper Dredge. Starting salary—$4.30 per hour; 2nd step—$4.53 per hour; 3rd step—$4.76 per hour.

Steam Engineers for Floating Crane, 250-ton lift. Starting salary—$3.77 per hour; 2nd step—$3.97 per hour; 3rd step—$4.17 per hour.

Interested applicants may receive detailed information by writing to the Personnel Director, Panama Canal Company, Balboa Heights, C. Z. Applicants must have a minimum 1st Assistant Steam License. Basic work week is 40 hours.

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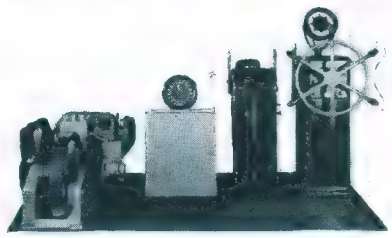

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2 available. Electro-mechanical, with auto pilot. Fully automatic. 2 HP, 115 volt DC, motors and controls. Excellent for small yachts and pleasure boats. In A-1 condition. Must be seen to be appreciated.

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General Motors 1600 HP Marine Diesel Engines Model 16-278A, 16 Cylinder, 8¾" bore, 10½" Stroke—720 RPM, complete unit, installed in ships, in like new condition.—$18,000 each. G.M. Diesel generator sets, model 3-268A—100 KW 440 volts, AC, 1200 RPM, complete with switchboard in like new condition.—$3,500 each. All Steel Barges, 210 ft. long, 34 ft. beam, pointed bow and skegs; excellent for towing at sea, 1,500 tons capacity, in new condition.—$15,000 each. All accessories and parts for LSM vessels at bargain prices, in new condition.

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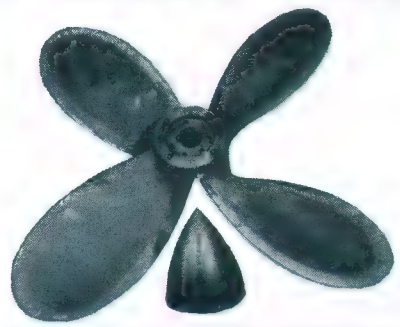

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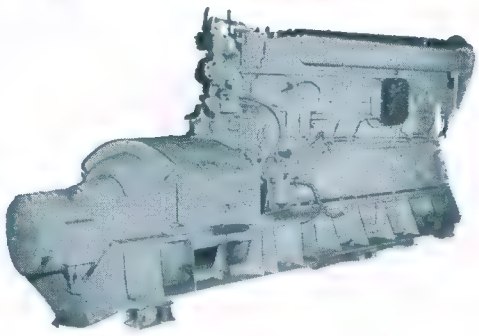
DIESEL GENERATORS



4—Cooper - Bessemer Diesel Engines, Model FS-6, 375 HP, 6 cylinders, 8¾" core, 11" stroke, with General Electric generators, 312 KVA, 250 KW, 450 volts A.C., 3-phase, 60 cycles, and with General Electric exciter, 4.5 KW, complete with switchboards.

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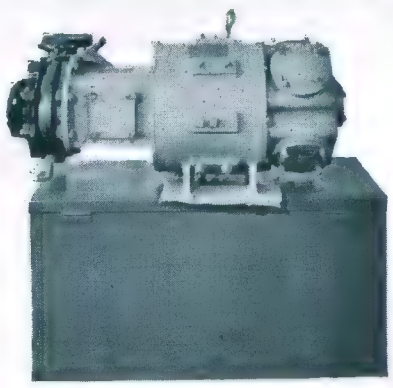

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Mfg by Lombard Pump Co.—85 GPM/22.3 lbs. head. Size 2 x 2—Star motor C-284 — 3 HP — 115 volts DC—23.5 amps—1750 RPM —stab. With full set of spares—excellent for cooling service in diesel installations or other circulating service.

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USED, GOOD CONDITION

4—75 HP, CROCKER-WHEELER MOTORS, 230 volts DC., 860 RPM, 261 amperes, stab. shunt wound, 2-Ball Brng.

4—90 HP WESTINGHOUSE MOTORS, 230 volts DC, 575 RPM, 325 amperes, shunt wound, 2-ball brng.

1—125 HP, ALLIS-CHALMERS MOTORS, 230 volts DC, 600 RPM, shunt wound, 2-ball brng.

5—250 KW WESTINGHOUSE GENERATORS, 120/240 volts DC, 1200 RPM, 1040 amperes, Single sleeve brng.

—RELIANCE M.G. SETS. Motor: 150 HP, 230 volts DC, 1080/1260 RPM, stab. shunt wound. Generator: 100 KW, 450 volts AC, 3-phase, 60 cycles, 1200 RPM, with DC exciter and speed regulator.

4—GENERAL ELECTRIC, AC to DC M-G sets. Motors: 115 HP, 440 volts AC, 3-phase, 60 cycles, frame 963, 1200 RPM, typical serial #5635732. Generators: 75 KW, 120 volts DC, type ODM 123Y, model #25G634, 1200 RPM, shunt wound.

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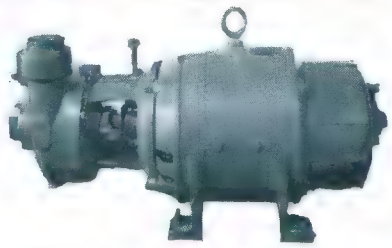

NEW 175 G.P.M. CENTRIFUGAL PUMPS

Allis-Chalmers pump — 175 GPM — 40' head — 2½ x 2½ — type SSHH — 3500 RPM. Motor type EBC-51—3 HP—230 volts DC—12 amps — 3500 RPM — Stab. shunt. Only 15 available.

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FOR SALE: DERRICK BARGE—Welded Steel Hull, 131' x 36' x 8' with Deck House, Quarters for 16 men, Galley, Electric Plant and 25-Ton "Osgood" 360 Degree Revolving Crane. Crane powered by Caterpillar Diesel D-1300. Built 1953 by Equitable Equipment Company, New Orleans. This barge in good operating condition. Available FOB Puerto Ordaz, Venezuela.

FOR SALE: TUG "Dauntless"—Welded Steel Hull. Built 1946 by Parker Brothers, Houston, Texas. Quarters for 12 men. Powered by Superior Diesel 1325 HP. Beam 22' 3", Length 100' 7", Draft 9' 9". Speed 11 knots, fuel capacity 19,448 gallons. Craft is fully equipped and in good operating condition. Available FOB Puerto Ordaz, Venezuela.

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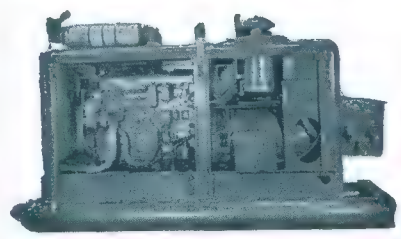

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19 sets to choose from. Thoroughly tested & guaranteed. Will ship same day order is received. Completely portable, mounted on oil field skids. Self-contained package units with built-in switch gear & radiator. ENGINE: GM 110—6 cyl. GENERATOR: Delco 150 KW 187.5 KVA—208/240/416/480 volts 3-phase 60-cycle. 125 VDC excitation. Units completely hooded, with tanks in base. With panel board. Just plug in for any of the above voltages. No piping or heat exchangers to hook up. Ideal for oil field use, marine construction, offshore drilling rigs, dredges, standby generators, etc.

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1 Work-cargo cable ship
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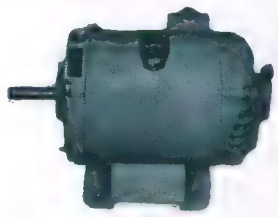

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Bath Iron Works Corp., Bath, Me.
Bethlehem Steel Co., Shipbuilding Div., 25 Broadway, New York 4, N. Y.
Blount Marine Corp., Warren, Rhode Island
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Coastal Drydock & Repair Corp., 1435 Richmond Ter., Staten Island 10, N. Y.
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Mobile Ship Repair, Inc., Ala. State Docks, P.O. Box 1591, Mobile, Ala.
National Steel & Shipbuilding Corp., San Diego 12, Cal.
Newport News Shipbuilding and Dry Dock Co., Newport News, Va.
New York Shipbuilding Corporation, 2430 Broadway, Camden 1, N. J.
Perth Amboy Dry Dock Co., Perth Amboy, N. J.
Puerto Rico Drydock and Marine Terminals, Inc., P.O. Box 2209, San Juan 10, Puerto Rico.
Rodermond Industries, Foot of Henderson St., Jersey City 2, N. J.
St. Louis Shipbuilding & Steel Co., 611 East Marceau, St. Louis 11, Mo.
Firma Willy H. Schlieker K6, Hamburg, Germany
Sun Shipbuilding & Dry Dock Co., Chester, Pa.
Todd Shipyards Corp., 1 Broadway, New York City
Wiley Mfg. Co., Port Deposit, Md.

SHIP MODELS
Arthur G. Henning, Inc., 12-14 South Third Ave., Mount Vernon, N. Y.

SHIP OPERATORS
American Export Lines, Inc., 25 Broadway, New York 4, N. Y.
United Fruit Co., Pier 3, North River, New York 6, N. Y.

SPARK ARRESTORS and MUFFLERS
Marine Products & Engineering Co., 20 Vesey St., New York 7, N. Y.

STEAM GENERATING EQUIPMENT
Babcock & Wilcox Co., 161 East 42nd St., New York 17, N. Y.
Combustion Engineering, Inc., 200 Madison Ave., New York 16, N. Y.

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Controlex Corp. of America, White Plains, N. Y.
Sperry Piedmont Co., Div. of Sperry Rand Corp., Charlottesville, Va.

STEVEDORING
American Stevedores, Inc., 90 Broad St., New York, N. Y.

TANK CLEANING
Magnus Chemical Co., 106 South Ave., Garwood, N. J.
Union Engineering Corp, First and Clinton Sts., Hoboken, N. J.

TELEGRAPH SYSTEMS
Controlex Corp. of America, White Plains, N. Y.
J. Harper & Son Co., P.O. Box 516, 244 Long Island Ave., Wyandanch, L. I., N. Y.
Engine Order, Docking Order, Rudder Angle: Henschel Corp., Amesbury, Mass.

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Henschel Corp., Amesbury, Mass.
Hose-McCann Telephone Co., 25th & 3rd Ave., Brooklyn, N. Y.
Marine Electric Corp., 600 Fourth Ave., Brooklyn 15, N. Y.

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Bay Houston Towing Company, 811 Cotton Exchange Bldg., Houston, Tex.
Cornell Steamboat Co., 712 12th Ave., New York 19, N. Y.
Curtis Bay Towing Co., Mercantile Bldg., Baltimore 2, Md.
Dalzell Towing Co., Inc., 21 West St., New York 6, N. Y.
Foundation Co. of Canada, Ltd., Marine Div., 1220 Bay St., Toronto 5, Ont., Canada
Henry Gillen's Sons Lighterage, Inc., 15 Moore St., New York 4, N. Y.
Hughes Bros., Inc., 17 Battery Pl., New York, N. Y.
Island Tug & Barge, Ltd., 355 Burrard Street, Vancouver 1, B.C.
Mc Allister Bros., Inc., 19 Rector St., New York, N. Y.
P. F. Martin, Inc., Mall Bldg., 325 Chestnut St., Philadelphia, Pa.
Moran Towing & Transportation Co., Inc., 17 Battery Place, N. Y.
Porto Rico Lighterage Co., Pier 10. Box 2966, San Juan 13, Puerto Rico
Red Star Towing & Transportation Co., 19 Rector St., New York 6, N. Y.
Russell Bros., Towing Co., 122 East 42nd St., New York 16, N. Y.
L. Smit & Co., 11 Broadway, New York 4, N. Y.
M. & J. Tracy, Inc., 1 Broadway, New York, N Y.
Turecamo Coastal and Harbor Towing Corp., 1752 Shore Parkway, Brooklyn, N. Y.
Wright & Cobb Lighterage Co., 19 Rector St., New York, N. Y.

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American Brass Co., Waterbury 20, Conn.

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Union Engineering Corp., First and Clinton Sts., Hoboken, N. J.

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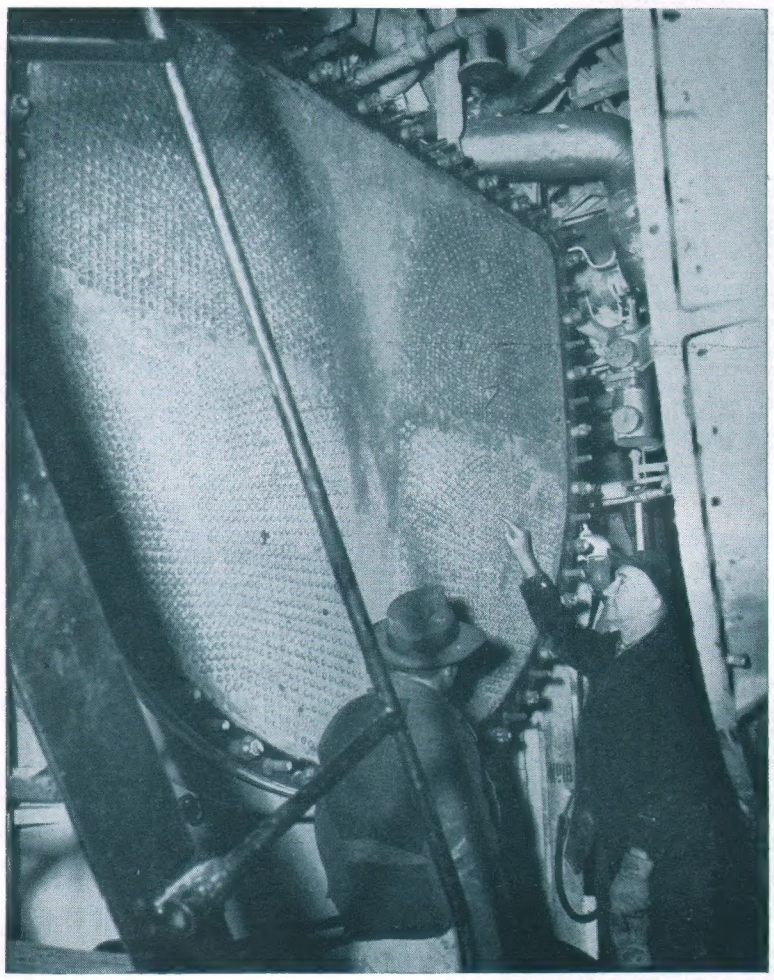

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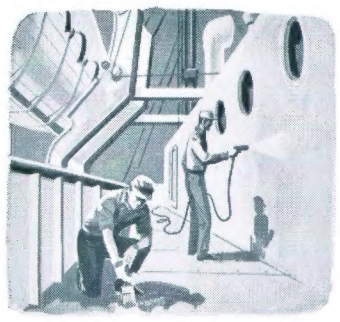

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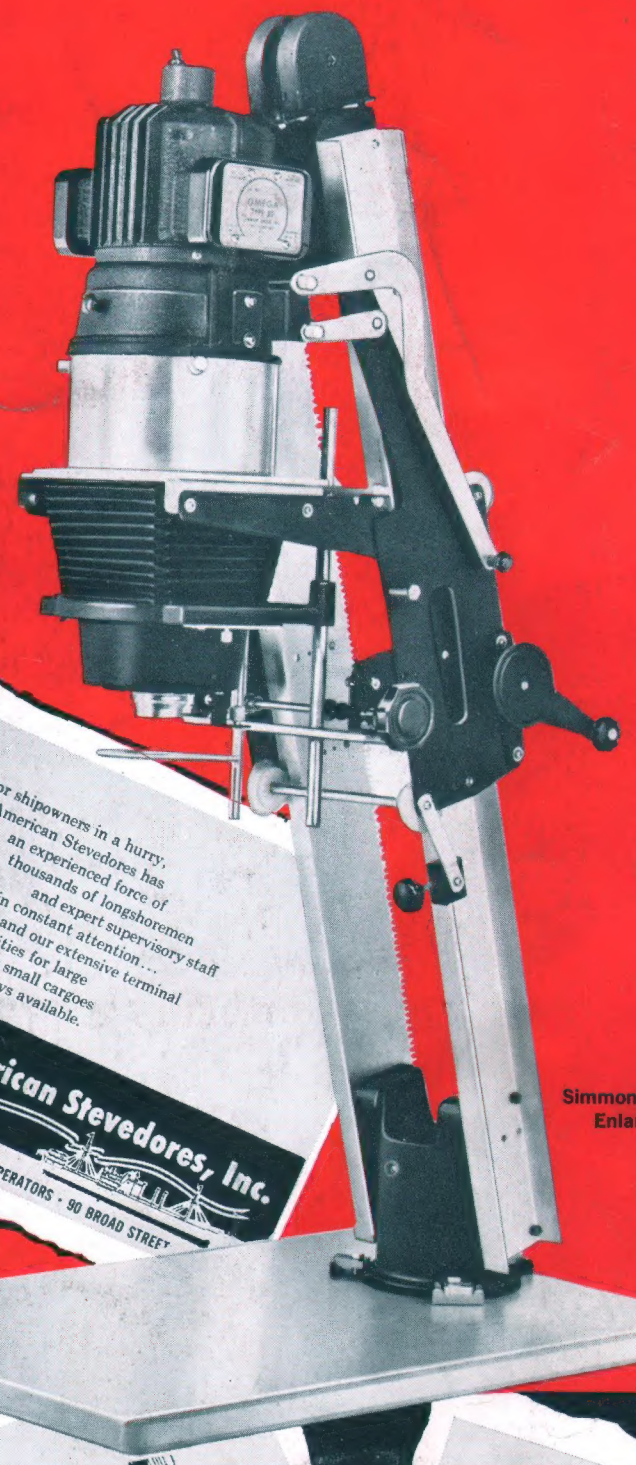

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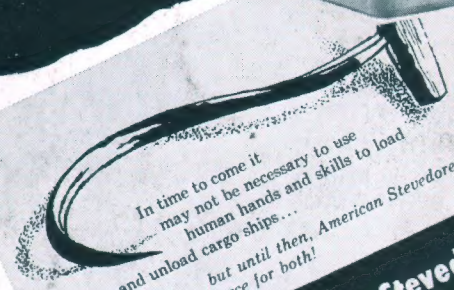

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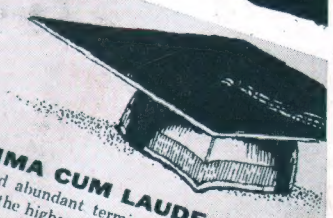

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